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8256 • 8512 • 9512
ISSUE 36 • SEPTEMBER 1989 • £1.75

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New DTP package makes paste-ups a thing of the past

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At long last an independently produced book about Protext, written by Rob Ainsley.

The book features a large section of tips for easy reference and is well illustrated with screen shots and printouts.

It also includes a section written to help the Locoscript user to 'convert' quickly to Protext.

It is an essential purchase for any current or potential Protext user whatever their word processing experience.

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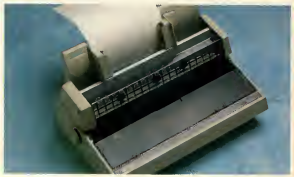

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Contact Locomotive Software for further details of Locoscript 2 and other Locomotive products for the PCW - ask for our 16 page detailed brochure.

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FOREWORD

Voice over

As we all know to our cost the Royal Mail is both expensive and slow. Indeed, so slow that a plethora of private companies have grown up to offer a fast mail service at a high price. Even the Post Office, with believable cynicism, has jumped on the bandwagon and offers an 'express' service – at a price. They'll charge you £1.65 plus postage to try and get your letter to its destination the following day; no guarantees you'll notice.

So what has this got to do with the PCW? Well I'll tell you. Part of my job is to cope with comms, which is how I used to think of it, coping. But these days familiarity has made me fairly blase when mucking about with modems. It's strange at first since contacting a bulletin board has the immediacy of a phone call, yet your words do not evaporate into the ether as with spoken telephone conversation, but hang around.

This tends to give rise to the Answering Machine Syndrome; callers will poke about on a bulletin board but not leave any messages; this is carrying shyness too far – answering machines and bulletin boards are there to be used. The way to think about messages on bulletin boards is as open letters. They are there to be commented on, so comment: (There is only one thing in the world worse than being talked about, and that is not being talked about.)

So make a resolution never to visit a bulletin board without leaving a message. If it's the first visit leave an open message, announce your interests and ask for some feedback.

But back to the Post Office. At 1200 baud you can send nearly 1000 words per minute. You can experience the joy of making human contact and the added joy of spending less than 10p for over 1500 words on a long distance call (off peak). Your words get there at the speed of light and there's no nonsense about losing them for a fortnight at the Stroud sorting office. Make someone happy with a phone call; you.

Stev

Tempdisc competition winners

In an scrupulously adjudicated draw the winners of the July Tempdisc competition were chosen from the highest entry yet. The four winners will all receive the relevant version of Tempdisc while the sixteen runners up get a standard Tempmate. The four lucky winners are:

- **G F Lawrence**
  Brighton
  East Sussex
- **David clarke**
  East Sheen
  London
- **Rev. R Mclure**
  Churchtown
  Southport
- **Chris Harris**
  Grose Covert
  Warrington

Many thanks to Thurston Techniques who provided the prizes and are even now mailing them to the winners and from whom a list of the runners up is available.

Showtime

The personal Computer Show (nee Personal Computer World Show) is now in its twelfth year and, say organisers Montbuild, looking better than ever. The show is being held from the 27th of September to the 1st of October at Earls Court and will as usual be divided into business and leisure areas with an overlapping central hall. We would tell you a lot more but the press releases are full of nonsense about Ataris, Amigas and games with 4096 colours. However, the free tickets are already arriving in the office thick and fast. We may go, and if we do we will tell you how it was.

Autumn sale

The CP/M and MSDOS Users Group are organising a sale of second hand computers, peripherals and software (surely they mean pre–owned?) The sale will be held on 30th of September at the Spring Lodge Community Centre in Witham.

If you are a vendor and want a stand at this event it will cost you £10 and you must book in

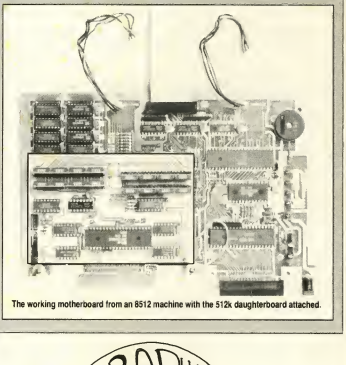
NEWS

Ramming it home

Despite doubts, some of them expressed in this very organ, we finally have an actual, working 512k RAM disc in this very office, in fact we have two: one attached to a 9512 machine and another built into an 8512.

Isenstein say they originally produced some 250 RAM drives as a water tester right back at the beginning of the year. These were hand built prototypes all of which sold immediately. Since then they have been taking orders for the RAM drives while trying to ramp up production to the levels necessary for commercial production. This they say they have now done and claim to be shipping them out to customers at a rate of some 800 to a 1000 per week.

So far production is limited to an internal board which necessitates some guarantee invalidating alterations, which Isenstein are offering to do for customers at a very reasonable price. We are told that there will probably be an alternative, and more expensive, version that comes in a box to plug straight onto the expansion port at the back of the PCW. For a full review of the new RAM drive, and how it works with various software packages, see October's packed issue.



The working motherboard from an 8512 machine with the 512k daughterboard attached.

Dingbyte

What is the computer related word or phrase? No prizes but the answer's on page 8.

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As well buying goodies attendees will be able to find out more about the group and even join up. The famous disc copying service will be available on site as will a bar.

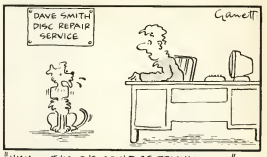
More information about this even can be found on the CP/M Group's bulletin board (0753 868196).

Dave the disk

Those discs don't die in vain. Dave's Disk Doctor Service Ltd, a registered company whose entire profit is covenanted to BACUP, a cancer charity. Dave Smith is the company director and works for it in his spare time (now almost non-existent) salvaging damaged discs. In the first four months of trading the company's income was £3200 with a further £900 outstanding (mainly from larger companies).

Against this total they have offset £700 of startup costs (including a PCW, naturally) and a further £700 of running expenses. The only other major cost will be the end of year auditor's fee of around £400. As soon as they have the requisite forms from the Inland revenue BACUP stand to benefit by several thousand pounds.

Because of the volume of work Dave is looking for local help, someone who can be trained to do the disc salvage work – and even paid a small wage.



CLUB NEWS

If you run a club, a special interest group or a bulletin board dedicated to PCW owning and using, that involves the PCW – or just because you want to get into Club News, why not write in and tell us all about it? Whether you're dedicated to voluntary work, leisure, or you're trying to make a living, if PCW owners need to know about it then tell us first and we'll pass the information on. All missives to Club News, 4 Queen St. Bath, BA1 1EJ

No secret

Adventurers everywhere have forced Official Secrets, the club for dedicated (fanatic, frantic?) adventurers, to take on another member of staff. Since this is the only source of the Magnetic Scrolls game Myth (yes, it's for the PCW) some slight

All sorts of forces are with you - Myth, the adventure.

show of interest was inevitable. Best of luck to John Knight, the man in quest-ion (groan). Contact them by taking the bus, going North and banging on the door. Or else try ringing 0279 726541.

Southern drawl

The South Bank Computer Club is on the south bank – of the River Tees. They currently have around forty members and meet every Tuesday from 6.30 PM at the Neighbourhood Centre, 7 South Bank, Cleveland, where you will often find their treasurer. John Chilvers.

The club aims to support all computer users but since John himself uses an 8512 (LocoScript, Mini Office and Stop Press to handle correspondence, accounts and newsletters) PCW owners can be sure of a very positive reception. Subscriptions are £7 a year or 20p per week and if you would like to know any more you can contact John by post at 4 Cranford Avenue, South Bank, Middlesbrough, Cleveland, TS6 0AU.

Round and round

That M25 Club (alright, the Middlesex PCW Club) really know how to make sure they get a mention. They keep sending in pictures. Of course, if they actually gave us a little information as well we'd give them even more space.

Tony Brown tells us that there's a new club night on September 25th before the normal meeting on the 19th September. For more information contact him on 01 841 3666 (after 6.30 PM).

Across the water

It looks like 8000 Plus is about to make an American connection. We've been visited by Peter Little, of Monterey, California. He's currently working with the PCW SIG in California (SIG stands for Special Interest Group). As with all things American it's big. This group currently

Yes, it's those heroes of the M25, braving some of the longest jams in England to get to the meet.

Peter Little should soon be keeping us posted on the PCW scene in deepest California.

boasts around 550 members and through a commercial company are looking to import your favourite PCW magazine. Naturally we wish them the best of luck.

Peter arranged to send us contact details for the SIG on his return from his British visit as well as an update on the state of PCW interest in the USA but we haven't had either of them yet (he's only just left the UK as we write this). As soon as we get them you'll know all about it.

Allsorts

Hampshire PCW User's Group Peter Bassett tells us that the club have purchased an 8256 which is available as a loan machine to members for a nominal fee. Just the kind of insurance you need to avoid those months long repair delays.

The next major meets are on September 5th which will be a LocoFile and database session followed by October 4th which will concentrate on public domain software. Be there or be somewhere else. Details from Peter on 0252 548660 after 6 PM.

This will enable the total volume of disc salvage work to be increased considerably.

To use the service, and before sending any discs, potential customers should telephone Dave on 089 283 5974. Discs should be sent in a Jiffy bag with return postage and a spare formatted disc. Just to prove he has more business than he can handle returned discs include a factsheet on disc care and backup procedures.

Regarding reviews

We report the news but sometimes we generate it as well. After 8000 Plus's review of the Investor program (issue 34) from B&BB Software our expert reviewer's comments have been taken into account. The program's author has now upgraded Investor to handle capital gains and dealing costs. An upgrade for existing users is available from B&BB Software. Send £5 to cover the cost of disc, postage and packaging and quote your registration number.

The hard one

Cirtech (UK) Ltd have launched a new hard disk for the PCW range of machines. The new hard disk is called the Diamond and sounds impressive. Two sizes, 32 and 48 megabyte versions are available, it comes with the computer industry standard XT3.9 SCSI interface (it says here) and includes 28 millisecond average access time (which is very fast) and automatic head parking. The hard disc can be attached to any other computer with a SCSI interface including the Mac (which has one built in). Perhaps more impressive is that the interface allows several PCWs to share single hard disc. Up to seven PCWs can a share a single hard disc with two areas each which will act as drives A and B. Does this mean you can boot up from them? We will find out.

Prices from £465 + VAT.

Contact Cirtech on 0896 57790

Hard discs are a great piece of kit to use but they definitely lack visual excitment.

Strange but true

Do you own a 1975 red Ford Escort with every possible bolt on goody? Are you looking for fresh challenges? Then talk to Isenstein, King Of The Customisers, who can do things to your PCW that you never thought possible.

Latest from their workshops in remotest Wales is the Black Stripe, for the design conscious PCW owner who wants to stand out from the crowd – not to mention burning up those words. The Black Stripe comes with a single three inch disc drive, a thirty megabyte hard disc, one megabyte of RAM, a 9512 style keyboard and a 24 pin printer all in a PCW style case all as standard.

We actually had an incomplete prototype of this this working in the 8000 Plus office, and no, you don't get a crick in the neck trying to read the screen, the letters still go across it (though they are slightly stretched vertically). Ours lacked the internal hard disc and 24 pin printer. When we get a fully working review machine we'll tell you more – like the price.

The PCW for the person who just can't bear to be a part of the herd. Yes, it was once an 8512

Laid bare

Well, more a case of uncovered really. If you buy additional insurance cover on your PCW, especially from Cornhill via Currys, check what equipement they are actually insuring .

Mr J Noon, of Bury found that his policy specifically excluded the PCW printer. Cornhill offered no reason for this beyond saying that they can exclude what they like. Presumably, as the hardest working part of the PCW they feel it's the part most likely to fail. It seems to us to rather negate the point of insurance.

Answer to dingbyte: Turtle Graphics

SNIPPETS

Prize guys

A £500 video camera is being given away by Database to the purchaser of the 500,000th Mini Office package. Mini Office is available on the PCW, PC Atari ST, Atari XL, Amstrad CPC, BBC, Spectrum, Electron and Commodore 64 so there's no guarantee it will be a PCW owner who wins.

According to Chris Payne of Database they have sent out 200 Mini Office packs with a special registration card (during August), one of which will be the lucky winner. If they tell us who won then we'll tell you.

Little squirt

Epson have released two new 24 nozzle ink jet printers – the 80 column SQ850 and the 132 column SQ2550.They're fast – 600 cps in draft, they're very quiet and you can't afford them. Models start at £899. For more information contact your nearest computer dealer.

Ink jet printers, quiet, fast and very expensive

Porta-disc

The Ranger is a disc drive for your Z88, it's PC compatible as well and it costs an astonishing £450. Made by Ranger Computers who will tell you more if you telephone them on 0604 791064.

A disc drive for your Z88 that's twice the size and twice the price of your portable.

No cigar

Almost everyone got the answer to the mystery photo in the Tempdisc competition correct. In fact the only one we came across that was wrong suggested it was really the top of a talcum powder tin. No names, no pack drill.

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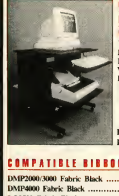

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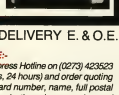

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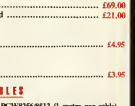

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LET THE TRAIN T

Steve Patient used to think that Dorking was a medi eval

LocoScript is one of the best-selling word processors of all time, and the company responsible for writing it, Locomotive Software, aren't resting on their laurels.

We went visiting at the company home in Dorking, deepest Surrey, to find out a little more about the people behind the name.

For a company that has such a huge influence on the working habits of more than a million people, they are very unassuming, being located in relatively small premises off Dorking High Street. In its short life Locomotive has grown to 26 employees and is now running out of room; watch out for a move to new premises in the near future.

Locomotive began life in March 1983, the brainchild of programmer Chris Hall. Along with almost all of the current programming staff at Locomotive, he once worked for a company called Data Recall, who, oddly enough, made dedicated word processing computers built around the Z80 microprocessor. Of course these were a great deal more expensive than a PCW (and sported bigger discs – the eight inch variety).

At that time, Chris Hall was their chief programmer and so knew a thing or two about word processors himself. For various reasons too libellous to go into here, he left Data Recall when it was taken over – and watched it subsequently go into a steep decline and eventually into liquidation.

Locomotive, as he originally envisaged it, was to supply software solutions to manufacturers of computing equipment and was not intended to be the kind of company that dealt direct with the public. When Amstrad approached them for help with the CPC 464, all that was to change.

Pre-release

As has gone down in the history books, Amstrad originally designed the CPC 464 with a 6502 microprocessor, at which point it all went wrong. Locomotive were called in to provide

Chris Hall is the Managing Director of Locomotive Software and designer of LocoScript

Howard Fisher – Commercial Director

Howard Fisher is Commercial Director of Locomotive Software and is the man behind all that (good) advice to buy LocoScript 2, LocoMail and LocoFile. You can meet him on the Locomotive stand at the PC Show in September and listen to him enthuse

No one at Locomotive Software has a higher profile than Howard Fisher, who is positively evangelical in his enthusiasm for his company's products, especially LocoScript and its sister programs. We asked him exactly what his responsibilities were. "I'm really in charge of everything that isn't programming," he replied. "That includes product development, sales, promotion and almost anything else that no one else wants to do."

Howard Fisher came to Locomotive from Acorn (who built the BBC Micro) soon after its inception. How much of Locomotive's success did he attribute to the PCW range of machines? "Locomotive originally intended to operate as 'backroom boys', rather than dealing directly with the public, but when the opportunity presented itself we took it. If it hadn't been LocoScript and the PCW then it would have been something else."

We asked Howard if he had any idea that the PCW would sell so well when he joined the company. "I'd been trying to persuade Acorn to do something similar before joining Locomotive, so naturally I had confidence in it. My belief in the PCW was one of the reasons why I joined Locomotive."

There have been various stories about the original Amstrad brief for the PCW, notably that Amstrad's vision of it wasn't quite the same as the final product. In fact we have heard that Amstrad envisaged something more like an electronic typewriter. "No comment; that's what our contract with Amstrad says we have to say. Seriously, the original brief is privileged information and I just can't say anything about it at all."

Locomotive obviously dominate the PCW software market; we wondered if the company felt any obligation to help other suppliers of hardware or software. "We look at every commercial enquiry individually. As software consultants, we're always willing to consider any offer of work. However, where we feel a product complements ours, doesn't compete and will promote our own products, we will usually try to be helpful. For example, if anyone wants to add hard discs, or other hardware, to the PCW which needs to work with LocoScript we will supply skeleton code for them to flesh out."

The PCW has been phenomenally successful for four years now; we asked how long it could continue. "I see no reason why it shouldn't still be selling in the late nineties. Amstrad have stated that as long as they're selling at least 50,000 units of something a year, they'll carry on making it."

Since LocoScript is such a successful product we wondered if Locomotive were working on versions of LocoScript for any other computers - the PC for example. "Locomotive have a policy of not pre-announcing products. Even if we were working on any such product we would make no comment until we knew when it would be ready for sale. It's true that a lot of people have asked us if we're going to bring out LocoScript for the PC."

We asked what aspect of LocoScript Locomotive are least happy about? "Direct printing," says Howard. "We never wanted to include it." And what are they most proud of? "That everything works the way you would expect it to."

TAKE THE STRAIN

dieval punishment until he visited Locomotive Software

Richard Clayton – Technical Director

Some people look the part, and some don't; Richard Clayton doesn't, yet he was a founder member of Locomotive. The first thing to find out was exactly what it is he does. "Chris designs it; I build it," he told us laconically.

Richard Clayton is Technical Director at Locomotive Software and literally knows LocoScript inside out. He should, since he built it. By the same token, though, he's always looking for ways to improve it

In fact Richard Clayton has been responsible for building every piece of software to come out of Locomotive; of which LocoScript is the most ambitious. We wondered why, with CP/M based computers having been around for nearly twenty years, it had taken so long to come up with a word processor as comprehensive as LocoScript. "LocoScript doesn't run under CP/M, and there were dedicated Z80 word processors years ago, but they cost ten times as much as the PCW does now. LocoScript was written by programmers familiar with the problems involved in writing dedicated word processors."

What particular differences did that make in the way he approached LocoScript? "We knew what we required from the hardware. The ninety column screen, the Ram drive and the way the screen works are some of the things we ordered from MEJ Electronics and which subsequently appeared on the PCW."

So the odd way the screen is mapped is Locomotive's doing? "Yes, it allows us to write a character much more quickly."

How long does it take to write something as complex as LocoScript? "If you know what you're doing it takes between three and four man years."

A lot of people would like to know why LocoScript 2 is so much faster than LocoScript 1. "We added a lot to LocoScript 2 but had to take one thing away for speed. LocoScript 2 is paged, which the earlier version wasn't; LocoScript 2 just checks that the current page is formatted. This has certain repercussions, for example, if you had a fifty page LocoScript 1 document with a special layout for quotes, then changing that layout on page 50 would make the program scroll all the way to the beginning looking for quotes to alter throughout the document; LocoScript 2 won't do that; there's always a trade-off."

LocoScript now has LocoMail, LocoFile and a variety of smaller support programs. We asked if Locomotive considered it a fully-developed product. "We're up to versions 2.28 and 2.29 for the 8000 and 9000 machines respectively; I don't see those being the final versions."

Do you do your programming on a PCW? "We program in Assembler. When we started we used a PC with a cross Assembler and a Z80 board fitted. We use our own Assembler. It will do things that simply can't be done on any others."

Is there any intention of extending LocoScript across a range of machines? "You have to remember that LocoScript is wedded to the PCW more tightly than any CP/M program. It has complete control of the PCW and can do what it likes." We wanted to know if that meant it wouldn't happen. "I'm not saying."

Which part of the program was Richard the least happy about? "Direct printing, which is why it isn't made more of in the program. It doesn't fit in with the way LocoScript works and I never wanted it to be there. Amstrad insisted."

What, in the LocoScript environment, are you most proud of? "The way everything does exactly what it should."

advice, and promptly advised Amstrad to throw away the board and start again. They recommended MEJ Electronics (also founded by people from the late Data Recall) to redesign the circuit board around the Z80 chip.

Locomotive supplied the Basic for the CPC and the whole machine went on to set Amstrad on the road to financial greatness. When the time came to design the PCW machine, Amstrad naturally approached Locomotive and MEJ for the goods. Whatever the initial brief for the PCW 8256, and it looks as though we will never know for sure, Locomotive succeeded in producing the cheapest, and one of the best, dedicated word processing systems ever seen, and the first one for the mass market.

The fact that the PCW also came with CP/M – Amstrad wanted it to be more than a word processor – and one of the fastest Basics available, was a big bonus. Mallard Basic is also a Locomotive product, and a very sophisticated one, incorporating as it does the JETSAM features, which as everyone knows is an ISAM filing method (Indexed Sequential Access Method of filing).

Software with the complexity of Mallard, and even more so LocoScript, aren't just thrown together. Like a car they have to be designed. There are several different areas that have to be considered. From the users' point of view the two important points are how it looks and how it works, and these make sensible starting points for anyone designing any piece of software.

How it appears

How it appears to work obviously affects how it actually works internally. Locomotive were in the happy position of having some say in the design of the hardware that would run their program and worked closely with MEJ Electronics so that the hardware and the software could be put together at the same time. It was this simultaneous gestation that made the PCW such a a well-integrated word processing computer.

The resulting computer was thus a very unusual one when it appeared. Here was a machine that could do both a very complex job and yet could be grasped and operated by completely non technically trained people in just a few minutes. In many ways this astonishing achievement has been taken for granted, itself a tribute to the work Locomotive did at the design stage.

The programming room is the throbbing heart of Locomotive Software, really

The man who has to take most of the credit for this achievement is Chris Hall, the Managing Director and Software Designer for Locomotive. All of this makes it rather interesting that Chris Hall still appears to think of himself as a programmer.

Those who really do the programming these days work in a large open-plan office among more than a dozen networked PCs connected up to an 85 megabyte file server. Each programmer is generally given responsibility for some particular section of the program while Richard Clayton co-ordinates everything; for example, during the programming of LocoScript one programmer might be working on the Disc Management Screen code while another works on the code that drives the printer.

All this disparate activity is co-ordinated by the Technical Director, Richard Clayton, who also works on the programming. It's his job to ensure that all the various parts of the program work together, fit into the memory, and behave as they're supposed to.

Helpline

For a company that never intended to deal directly with the public, Locomotive have earned an enviable reputation for product support, an example a few others could look to. They will respond to all written enquiries and have a sophisticated system for keeping track of them (filing cabinets full of carefully indexed letters from occasionally bemused customers). The enquiries are cross-indexed to the replies and the whole shebang is recorded using LocoFile. Considering their workload, the customer support department showed a remarkably high level of morale.

Leaving these Myrmidons of the customer support department we visited Howard Fisher's domain in marketing (it was interesting to note that Howard Fisher keeps all his phone numbers and contact names on a PCW running LocoFile.) One of the more recent ploys here has been a mail shot to PCW owners. One of the problems for Locomotive is that they don't actually know who has PCWs, so like other companies who would like to sell upgrades or new products to complement the existing ones they buy lists from companies who sell them.

Unfortunately, like software, when you buy a list you don't own it, merely get the use of it; in fact you don't even get to see it. What you do is supply material for the mailshot and stand back. If you were one of those on the end of that mailshot then you got an invitation to a free draw. Whether you bought something or not, simply returning the form gave you the chance to win one of a 100 boxes of Maxell discs, a thousand discs in all. So, as a neutral party, we got to draw a hundred names of lucky winners. It takes a surprisingly long time to do.

The final call was to the domain of Jean Gilmour, where the work of documentation goes on. At last we were on familiar ground again with Macs everywhere. Like most other people who have to produce a lot of paper for publication, including the very advertisements they place in 8000 Plus, Locomotive use a Mac and Laserwriter for fast, high quality, results. On leaving there we were in time to see a hapless minion being instructed to write to the hundred winners and send them their prizes. Never mind, we were off to the pub. ■

Jane Packer is responsible for the customer support department. She makes sure all those technical queries are answered and uses LocoFile to keep track of them.

Jean Gilmour – Senior Technical Writer

Jean Gilmour is the one who writes all those thick manuals that come out of Locomotive Software. It seems the route to technical writing is via an editor's job: very interesting. Paeans of praise should be sent direct to her.

The person every PCW owner knows best at Loco-motive is Jean Gilmour, who wrote the manuals you either love or hate but can't get along without. Naturally we asked if anyone else had a hand in them. "Not the Locoscript 1 and 2 manuals which were all my own work. I have overall responsibility for writing all of the manuals and virtually all other documentation for Locomotive. if you're reading it then I probably wrote it."

Considering some of the things said about the LocoScript 1 manual, we wondered if Jean Gilmour had written manuals before working for Locomotive. "I started off writing for Physics Bulletin, published by the Institute of Physics in Bristol; later I was editor of Radio and Electronics World before escaping to work as a reporter and features writer for Electronics Times. I enjoyed that but then Locomotive made me an offer I couldn't refuse."

Many 8256 owners found the LocoScript manual hard to cope with. Had she been aware that for most PCW owners LocoScript and its manual would be their first brush with computers and software? "Yes, I was very aware of the fact. I think the main problem was having to finish the manual before the software was ready. By the time the software was finished, the two no longer matched very well. There were many things about that first manual that I was unhappy with."

The manuals following the first one seemed much better. What was the reason for that? "Simply that I had a chance to become much more familiar with the software, and to write a manual you need to know more than goes in the finished book. Also, we went from pasting up the manuals from galleys to preparing them on a Mac and producing camera-ready copy on a laserwriter. This means that we can alter things right up until the last minute."

The various manuals are written in quite different styles. Is there any particular reason for that? "The LocoScript 1 manual really didn't work so it seemed sensible to try a different approach. Writing the manual as a series of very short tutorials proved much easier for people to use."

Clearly there is as much text in a LocoScript manual as a short novel, we wondered how long it takes to write a software manual. "As much time as is available. You can never have enough time. To give you an example the LocoScript 2 manual took me five months but the original Locofile manual, which was an easier piece of software to use, and to explain, took only four weeks. Mind you, the LocoFile manual had already been started by someone else but even so it was only done so fast because there was a lot of pressure on to finish it; I hope I never have to do one as fast as that again."

Who prepares the brief for the manuals? "I do, though everyone is involved. As I learn the software I might say to Richard that something isn't quite right about the way it works, and if he agrees, it will be changed. Then Chris, Richard or Howard might mention that something needs a bit more explanation, so I have to explain a bit more. In the end, no manual goes out if I 'm unhappy with it."

What's the most important thing in a manual? "The index, of which ours are very good. Most of the queries we get can be answered just by going to the index in the relevant manual."

A technical manual is quite a different piece of writing from a work of fiction, and a much more sustained effort than a magazine feature. We wondered what Jean Gilmour liked least about the manuals she's written. "People not reading them, asking questions that I know I've explained and indexed."

What does she like most about them. "Knowing that I've done the best I could gives me a definite feeling of satisfaction." It was at this point that Howard mentioned being a million-selling author, and we have to agree that that must count for something.

Software Stop-off

LocoScript – the family
LocoScript has become such an extended family that it's worth having a little biopsy of each product to hand, and here it is.

The version numbers supplied here are the latest available, the first for the 8000 machines and the second for the 9000 series.

LocoScript ● 1 v1.20
This is the basic LocoScript word processor that comes free with the 8000 machines. If you have an earlier version Amstrad will upgrade it for free if you return your master disc.

LocoScript 2 ● v2.28 and 2.29 ● £24.95
The major upgrade to LocoScript 1. Comes free with the 9512 but you have to buy it for the 8000 series. Amstrad get the latest versions as Locomotive improve the product but even though Amstrad have the latest version you probably won't get that with your PCW 9512.

LocoMail ● v2.28 and 2.29 ● £29.95
The first major add-on for LocoScript. 9512 owners get it free but they don't get the manual which can, however, be bought from Locomotive for £14.95. LocoMail adds mailmerging and programming features to LocoScript. 8000 series owners with LocoScript 2 get their whole system automatically upgraded to version 2.28 when they buy this.

LocoFile ● v2.28 and 2.29 ● £29.95
LocoFile is an integrated database for LocoScript 2 and installing it upgrades your whole system to the latest version. To get the most out of it you need LocoMail. There is now a much improved ring-bound LocoFile manual update which can be bought for £5.95 providing you submit with your request the back cover of your original manual (pre December 88).

LocoSpell ● v2.28 and 2.29 ● £19.95
The spellchecker for LocoScript 2 users. It now boasts several new features including improved handling of the User Dictionary. It is also one of the cheapest ways to both upgrade to the latest version of LocoScript 2 and gain a new piece of software.

LocoFont ● v2.28 and 2.29 ● £19.95 and £14.95
This product comes in two parts, set 1 and set 2 oddly enough, and gives you a variety of extra typestyles on the 8000 series machines. Unlike Supertype, LocoFont works with not just the English characters but also the European, Greek and Cyrillic characters. Like all other LocoScript 2 products, this is distributed with the installation program to upgrade your system.

LocoFont 24 ● 8000 and 9000 series ● £24.95
This is the software that allows owners of 24 pin printers to use a wide variety of fonts on any PCW. Again there are two sets of discs, both of which contain five fonts. To use LocoFont 24 you will need the 24 pin printer disc.

Printer drivers ● v2.28 and 2.29 ● £19.95
Locomotive now supply drivers for more than 320 different printers including various laser printers. If you're running a new dot matrix printer on either the 8000 or 9000 machines then this disc will allow you to get the most out of it. It includes the Charkit program to redefine up to 16 characters as well as a program to build your own printer driver.

24 pin printer drivers ● v2.28 and 2.29 ● £24.95
This disc contains software that allows the PCW machines to drive a 24 pin printer as if it were the built in dot matrix printer; which is to say that it gives the PCW total control. Ring Locomotive if you're unsure whether or not your 24 pin printer is supported, new ones are being added all the time.

Print wheels disc ● 9000 series ● £14.95
This disc allows 9512 owners to use non-English daisy wheels. There are currently 12 different daisy wheels supported. Also on the disc is a program which gives you the facility to create your own print wheel drivers. A must for anyone who needs to use a European daisy wheel. Note that you don't need it for the Thesis PS wheel which is already supported.

Keyboards disc ● v2.28 and 2.29 ● £19.95
This is a fun disc, though it has its serious side too. You can use this to customise your keyboard; change it to the Dvorak layout, or a French Azerty style. It will also allow you to customise your system so that when everything loads from the Start of Day disc your name, or whatever, comes up on screen.

Upgrade disc ● v2.28 and 2.29 ● £14.95
This was made available by popular demand and will upgrade LocoScript 2, LocoMail, LocoFile and LocoSpell to the latest version of the software. Instead of this you could buy a LocoFont disc or something similar and get upgraded as well for free.

Euro Arabic ● 8000 and 9000 series ● £85
We haven't reviewed this yet but it allows you to write Urdu, Arabic and Farsi on the PCW from right to left as well as European languages from left to right. It needs a keyboard dongle to work and you lose the Greek and Cyrillic character sets. It works out at several thousand pounds cheaper than the next comparable system.

LocoMail example disc ● £5
For anyone who ever had any trouble getting started.

Manuals
All of the manuals that come with Locomotive products can be bought separately. Ring Locomotive for details, ordering details.

Is this the most important person at Locomotive? Linda Haynes is the Office Manager and makes sure things run efficiently.

Remarkable

We couldn't help noticing an extraordinary resemblance between Chris Hall and another famous programmer, Gary Kildall (see issue 31), though Chris Hall does look a lot younger. Is this an attempt to invoke sympathetic magic? Locomotive racked up a repectable £1.25 million turnover last year, a little short of Digital Research's figures but then, Locomotive haven't been at it for so long.

Training

Many people have wondered why Locomotive? Why not Chris Hall Consultancy, or CHC plc? Well it all goes back to one of those old programmers' sayings, "Software is either a train or a drain" meaning that it either goes very fast or very slowly.

Chris Hall likes his software to run fast hence Locomotive, and their Basic is very fast hence Mallard, the steam train with the world record for the quarter mile – 126 mph hauling 240 tons on 3rd July 1938. And LocoScript 1? The explanation is that considering how much it does, it does it fast.

Outside interests

Among their other sales Locomotive have written the Basic in both the Husky and the Microscribe handheld computers. They did the Husky first, then improved the Basic to make it even faster and sold it for the Microscribe and then sold a further improved version to Husky. This process is one of the reasons why software houses should seek to improve on their products.

Tongue twisters

LocoScript has been fully translated for a variety of languages, but do you realise just how many there are now? There are full translations, including all menus, error messages and documentation for German, Spanish, French, Italian, Danish, Swedish, Portuguese and Welsh. There are also variants for Canada, Norway and Finland not to mention the special Far East versions now appearing.

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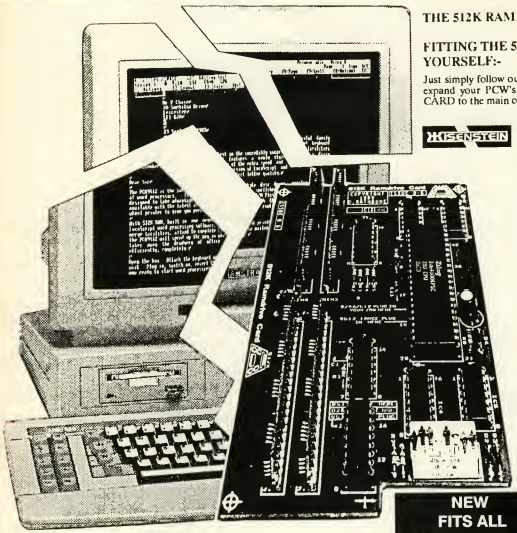

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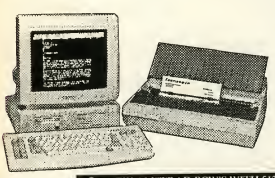

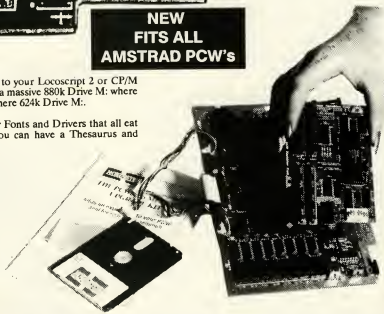

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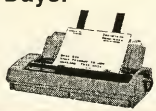

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Faulty PCW9512 Printer	£25.00	£115.00
Faulty PCW8256/512 Monitor	£30.00	£150.00
Faulty PCW9512 Monitor	£30.00	£150.00
Faulty I Don't Know what it is? (sending you the lot!)	£50.00	£185.00

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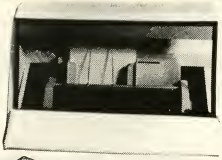

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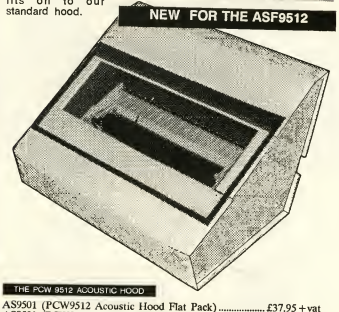

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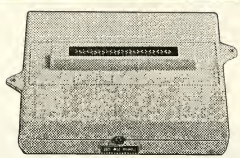

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PCW 9512

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WRITING PERIODICALLY

Can you earn a living from your hobby? Kevin Fox tells how he learned to make some money from his interest in radio and astronomy

Special Interest Groups, which means people with hobbies, who were once fobbed off with the cry 'Not enough interest to publish a magazine, old boy' are now served with literally hundreds of magazines. This has resulted in an explosion of magazines catering for almost every interest and hobby under the sun, ranging from 'Bondage Monthly' to the more exotic 'Pond Fish' all of which will pay good money for articles.

All of these magazines require copy; they're even screaming out for it. There's an insatiable thirst for articles and photographs – especially pictures – so where do you start? Market research is the key to successful magazine writing, and that research must start with yourself. My special areas of interest are: computing, amateur radio, communications and weather satellite systems, astronomy and photography. So I began writing magazine articles around these areas, starting with Amateur Radio.

Your first step is to think about your areas of interest, and then honestly assess your subject knowledge. It's unwise to write about an interest you know little about and even when you do think you know the facts, check them anyway. Hobby magazines are read by both beginner and expert alike and any errors in your article will be ruthlessly rammed back down your throat. You have been warned.

Whilst we're on the subject of warnings, don't make the mistake of thinking that because magazines are always screaming out for copy they'll take any old rubbish. Whether it's the parish magazine or a respected journal like 8000 Plus, any editor worth his or her salt will spot junk writing a mile off.

Once you've analysed your interests, find out exactly what magazines are available to you, which ones you might write for. A friendly newsagent (mine thinks I'm wonderful, might be something to do with his annual six-week vacation in the Bahamas, courtesy of my magazine bill) is most helpful. Not all newsagents will stock all magazines, but they do have a book which tells them what magazines there are for a particular hobby. Try to obtain at least one, and preferably all magazines which cover the hobby you want to write about. Nobody said market research was cheap.

Which magazine?

Having acquired your magazines, what do you do with them? Well, you study them, (but don't do it in the Worksop branch of W.H.Smiths because that's where I do a lot of my research) and by study I do not just mean read. This is what you need to discover before you put pen to paper.

Does the magazine encourage freelance contributions? Most do, and say so quite clearly, but there are still a few which don't. Examine each article in the magazine, ask yourself the following questions; why was this article written, what is the subject matter, how deep does the article go? Is the subject treated in a light-hearted manner with simple words, short sentences and lots of illustrations, or is it 'heavy', with lots of long words and sentences, graphs, tables and formulae?

Look at the magazine as a whole. What is the overall 'feel', who is the magazine directed at, the beginner or the expert? Estimate (by the nature and depth of the articles) the readership age. Get hold of as many back issues of the

Kevin Fox turned his hobbies into a new source of income by writing about them

magazine as you can to enable you to follow through with any series, and to discover what articles have already been covered. Find out what appears to be the favourite subject and then avoid it like the plague; you're far more likely to get in with something original, even if it isn't quite so professional. When a subject has been done to death it takes a lot more effort from an author to get another article out of it.

If an author's name crops up regularly then pay particular attention to his or her style, but don't copy it. Use it as a guide to help you discover what kind of writing the magazine prefers.

Illustrated news

After your period of study (and if you've done it properly) you should be an 'expert' on that particular magazine. You should know its editorial policy, the name, address and telephone number of the editor, fully understand and be able to explain to someone the overall feel, style and reader age of the magazine.

You should know what articles have been published during the past year and the depth to which they were covered. You will have absorbed the various styles of the magazine's contributors, and have a good idea of the required article length and illustration requirements.

When you can do all this, you should be able to predict what sort of article the magazine will consider favourably and then write it in the style of the magazine. Easy, isn't it?

Now, for your first lesson in market research. Why has 8000 Plus chosen to publish my article? Answering that question will set you on the road to successful magazine writing. (Answers to the author on the back

Your words

The mere act of committing words to paper (or disc) makes them copywrite; you don't need to do anything else at all. But if someone else has written very similar words – as often happens when writing to a particular style, you have no argument with them unless you can prove plagiarism. It's interesting that poets are notorious for stealing good lines.

The first time: John Huggins reminisces on his first published article

I'd often seen the little boxes in various magazines pleading for reader contributions. Kevin explained about the dearth of good technical articles in the various Amateur Radio magazines, so I put together a technical piece concerning Radio Teletype communications; teleprinters to the uninitiated.

Writing the piece really made me think: just who was I aiming the article at, and was I using the right level of language? After two or three re-writes I had the balance right. By using various illustrations I suddenly found that I could dispose of whole paragraphs of descriptive text.

I made certain that my copyright statement was on every page of the text, and on every illustration. I then sent the manuscript and illustrations off to Practical Wireless magazine, together with a covering letter stating that I wrote the article, owned all the copyrights, and was prepared to have it published at the usual rates.

It was tremendously exciting to see my first article published, and in a magazine that had in the past carried articles by such legends of communication as Marconi and Sir Oliver Lodge. Of course, getting paid was the cherry on the cake.

John Huggins found that people did want to read his words of wisdom

of a fifty pound note please.)

Okay. You've studied your potential market and obtained answers to all the important questions you must ask before – and I can't stress this enough – you start writing. You now have an idea for an article and you've written it; let's take a brief look at manuscript layout.

Indenting articles

Your manuscript is the interface between you and the magazine's editor, and it reflects the person you are. It has to impress on sight, so hand-scrawled Sanskrit is out for a start. Not that a typewritten manuscript is compulsory; editors prefer it because it's generally so much easier to read. So, A4 paper, double line spacing with at least a two inch wide left-margin, and one inch right margin is the order of the day. Headers and footers always look professional, and to save the editor's sanity, number each page like so: PAGE (n) OF (n) PAGES, which means that should a page go astray it will be spotted immediately, and you won't be regarded as a narcoleptic.

As far as the actual content of your article goes, well, you're the expert; but I can give you a few pointers. If you use facts in your article, then always state the source of the facts. Back up any assertions you make with supporting evidence, and balance a controversial statement with the other side's viewpoint as well as your own. Leave the reader to decide who's right or wrong. And always, always use plenty of illustrations *(well why didn't I get plenty of illustrations then - Ed?)*. I've switched to using DTP software for my illustrations, and I find that these get used exactly as I send them in.

Try to establish a new theme altogether or offer an alternative viewpoint to an existing theme. Try looking at your hobby from the perspective of a complete beginner, often newcomers are overlooked because people sometimes think, 'Well, everybody knows that', but they don't and someone has to be the one to explain it all.

Ms found in a bottle

Don't try to cover too much ground in one article; stick to one or two points. If you have more points to cover then maybe you have a series? Whatever you do, don't leap from subject to subject.

Ensure that all diagrams and photographs are clearly labelled and identified in the text. Use one illustration per A4 sheet; it may be tempting to squeeze ten illustrations onto one A4 sheet but you'll cause havoc in the process camera room if you do. It is axiomatic to say that you must either own the copyright, or have written permission for all the illustrations you've used.

There are definite views on submitting your finished manuscript. Some editors like you to write to them outlining your proposed article first, and enclosing sample illustrations. I don't do this: words are copyright, ideas are not. I usually send in a finished manuscript together with a covering letter. But there is a danger in doing this.

If your article isn't acceptable then you've wasted the time involved in writing it. I just happen to think that a finished 'oven-ready' article is more impressive than a mere outline, so you pays yer money an' takes yer choice.

If you want your manuscript back, you must include a self-addressed envelope together with sufficient return postage. If your manuscript isn't suitable, it will be returned very quickly together with a polite rejection slip which states briefly why it isn't suitable. If, after three to four weeks you haven't heard anything, the chances are the magazine plans to publish – but remember that magazines tend to work months in advance.

If your manuscript is accepted for publication the editor will probably contact you to check that you own the copyright, discuss the magazine's payment terms and any major alterations, additions and illustrative material required. If you agree, then that's it. About a month after publication you'll receive your cheque and sometimes a copy of the mag. ■

Come again

Magazines usually buy first serial rights, which is what you should offer, and the copywrite stays with you. This means that you can sell it to another magazine as well. If you do this, then tell them you are offering second serial rights. Most magazines want original material and will get very ratty if deceived.

A word from your editor

The view from the other side of the fence is slightly different from that presented by Kevin Fox, but it seems worth presenting it for your information. As an editor, I look first for readability; did I enjoy reading the submission? After all, I'm paid to read these things and if I couldn't be bothered to finish it will anyone else? The ideal article both informs and entertains; it is lucid in its presentation of the facts and strives to communicate with rather than to impress the reader.

Of course this is an ideal obtained all too infrequently and an article almost always needs further work after submission; indeed many need rewriting completely to fit in with the needs of the magazine. For this reason, it is often better to submit a synopsis of a proposed article and ask how the editor would like it done. The professional writers I deal with work this way.

Having your ideas stolen is rare – there are very few new feature ideas, most have been done already. A magazine editor is usually looking for a new way of presenting a subject rather than for a completely original idea. However, what often happens is that more than one submission will arrive on the same subject, or two people will put up the same idea. This has happened to me on more than one occasion when I've written for other magazines and it happens ocassionally on 8000 Plus. The only solution is to make sure that yours is the best submission and that you are the most professional in

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Do you already own a computer If so, which one do you own?

THE KEY TO

Bored with keys that always do the same old thing or just wish you could g

Amstrad supplied several computer-specific utilities with their PCW series of machines. Of these one stands out as being more immediately useful than any other: the SETKEYS utility.

If you've ever wished to make one program behave like another, type in specific commands or strings using just a single key, or just wanted to make a piece of new software respond in some old familiar fashion, then you need the power SETKEYS gives you over the keyboard.

A variety of commercial CP/M programs, for instance WordStar, insist that you run a SETKEYS file before you use them, usually so that the cursor keys work correctly. This is all very well until you leave that program when you suddenly find that the cursor keys no longer work as they should.

There are also programs that change the way the keys work directly – without going through SETKEYS – which can be even more annoying. So one of the first uses for SETKEYS is to reset the keyboard to the standard layout without having to reboot your PCW.

To find out how to do this, it's necessary to understand how SETKEYS works, so let's start at the beginning, with the keyboard. As far as the PCW itself is concerned, keys are represented by no more than a number. The keys are numbered as shown in the box and although the 9512 and 8256 keyboards are laid out differently, the same keys return the same numbers; the [+] and [-] keys, for example, are 76 and 23 respectively on all PCW machines.

One other piece of information is reported to the PCW from the keyboard – the shift state; this is whether the [SHIFT], [ALT] or [EXTRA] keys are depressed.

Tableware

The PCW has an internal table where it stores what it should produce for each of the key numbers and shift state combinations. For example, pressing the key that returns 69 normally causes a lower case letter A to appear on screen. If key number 69 is pressed with the [SHIFT] key held down, a capital A is sent to the screen. Using SETKEYS you can alter this table so that some other character is sent to the screen, or so that every key sends the same character; not very useful, perhaps, but entirely possible.

For SETKEYS to work, it needs new information to put into the PCW's internal tables; this is taken from a simple Ascii file containing the new information (written using RPED or from LocoScript with the **Make Ascii file** option). Confusion often arises concerning the number of different ways this information can be written. We'll go into that in a minute. First of all, though, what exactly can you set a key to do?

Well, a key can be made to produce a control character (like [RETURN] or [ALT]c), a printable character, including any of the foreign characters available under CP/M, or a string of characters (which can include control codes as well). Strings of characters generated from a single key can be extremely useful with programs you use a lot like Basic. Using SETKEYS, you can make the unused function keys generate Basic key words like PRINT and CHR$, or commands such as SAVE". Any program you use a lot would benefit from a swift application of SETKEYS.

I name that code

The names for most of the control codes aren't exactly in everyday use, but since both SETKEYS and other CP/M utilities know them, you may as well know them too. So here they are:

00 NUL	Null
01 SOH	Start heading
02 STX	Start text
03 ETX	End text
04 EOT	End transmission
05 ENQ	Enquire
06 ACK	Acknowledge
07 BEL	Bell
08 BS	Backspace
09 HT	Horizontal tab
0A LF	Linefeed
0B VT	Vertical feed
0C FF	Form feed
0D CR	Carriage return
0E SO	Shift out
0F SI	Shift in
10 DLE	Data link escape
11 DC1	Device control 1
12 DC2	Device control 2
13 DC2	Device control 3
14 DC2	Device control 4
15 NAK	Negative ack.
16 SYN	Synchronous idle
17 ETB	End trans. block
18 CAN	Cancel
19 EM	End medium
1A SS	Special sequence
1B ESC	Escape
1C FS	File separator
1D GS	Group separator
1E RS	Record separator
1F US	Unit separator

Step by step with SETKEYS

First you need to decide what keys need redefining for your purposes and whether or not there are any strings you'd like produced on a single key press. A line to redefine a key consists of three required parts and one optional part. They must, however, be separated by a space and are as follows:

Key number	0 to 80.
Shift state	N, S, A, E, SA or any combination.
Character required	The character itself or its Ascii code.
An optional comment	To remind you of your intentions.

For an expansion string definition there are again three necessary parts and one optional section:

E	To say it is an expansion string.
Expansion token	A hex number between #80 and #9F.
The string itself	Which can contain control codes.
An optional comment	

Next make an Ascii file containing the lines that redefine the keys and set the expansion strings as explained in the main text. Save this file with some memorable name, like SC2.KEY for working with SuperCalc, perhaps.

Make sure you have both SETKEYS and the file of key definitions on either your working disc or M so that it is available when you need it.

Now, if you want to make your keys behave differently while at the command line (the A> under CP/M) then just type: SETKEYS SC2.KEY[RETURN].

However, if you always want your keyboard set up differently include the command as a line in your PROFILE.SUB file so that CP/M can run SETKEYS automatically when you turn your machine on.

Just a token

The very observant will have noticed that certain of the lines in the file above begin not with a number but with an E. How can this be so after all that's been said? The trick here is that some numbers don't refer to a character at all but to an expansion string. In fact all the numbers between 80 hex and 9E hex (128 to 158) can be used for expansion strings though some are best left alone since they are assigned already to cursor keys, the [STOP] key and the [DEL] keys.

In fact the safest keys to work with from among those available are the function keys, numbered from 81 hex to 88 hex. It makes sense to limit yourself anyway since you are allowed a total of just 120 characters in all.

If you look in the OLD.KEY file above, you will see that the last four entries share something in common. Two of them have #9F in them and two have #90. To define an expansion string, you need to start the line with an E (for expansion) followed by the number of the expansion string associated with the key you're interested in - #9F and #9F in this case and then finally, the string itself. There is a list in the manual.

This string then has to be attached to a particular key number just as if it were an ordinary character. So if you wanted to have [f1] produce the word Steve on the screen, you'd put in two lines thus: E #81 "Steve"

THE FACTS

ccd get more out of those you don't use? pidj ;las SETKEYS kdplaer!

Combined forces

The real power of the CP/M utilities can only really be appreciated by those who use them in concert. Each utility is designed to do just a few housekeeping jobs and really needs to be considered as just a part of a complete system.

So far in this current reprise of the CP/M utilities we've covered only the standard utilities. However, as purists may well point out, SETKEYS is a little bit of a cheat. You see, there are utilities and utilities; some of them are pure CP/M utilities and others are specific to the PCW implementation.

The normal CP/M utilities come with any CP/M system but some of those on the PCW were written just for you. SETKEYS is the first utility covered in this series that falls into the latter category. Some computers come with hardwired keyboards and there's no easy way of altering the way that they work. The PCW, by contrast, is a machine whose operation can be altered in a myriad of ways by those with the will to find out how everything works.

To give you an idea for something to try with SETKEYS why not set up a disc, a suitable SETKEYS data file and a PROFILE.SUB to turn your keyboard into one with a DVORAK layout; with a bit of practice this is supposed to enable anyone to type a great deal faster.

Other Start of Day discs might in future have SETKEYS files on them to set your function keys up to produce various useful commands or sequences of keystrokes, the permutations are endless. What's more, they can be a lot of fun. So get busy and learn how to combine the actions of the utilities to get the best from your machine; you won't regret it.

```
02 N "^A"#81""
```

If you wanted to produce Steve followed by a [RETURN], you'd need this in the expansion string:

```
E #81 "Steve^M"
```

But if the up arrow and double speech marks are part of the syntax of an expansion string, how do you get them to print out? You need to preface the up arrow you want printed with another and also put one in front of any quote marks required, like this:

```
E #61 "Steve^^ and^""
```

Now pressing [f1] would produce Steve^ and" on the screen. Let's define three rather more useful examples of expansion strings. Firstly, a list of the keys the strings will be assigned to, [f1], [f3] and [f5] followed by the strings themselves. The first one runs a SETKEYS file, the second one unsets all the files on the disc in drive A so that you can work with them, and the third supplies an ID number as part of a Telecom Gold log-on sequence:

```
02 N ""^#81""
00 N ""^#83""
72 N ""^#85""
E #61 "SETKEYS OLD.KEY^M"
E #83 "SET A:*.* [DIR]^M"
E #85 "ID ABC123^M"
```

These are just a few examples of the kind of thing you can so with SETKEYS; now that you know how to do it, you'll soon find specific uses relevant to your own needs.

Nice characters

Changing characters is the most straightforward use of SETKEYS. To do this you need only define the key number, the shift state and then, finally, the character you want to be produced. However, there is more than one way to define the new character although simply putting the required character in quotes is the simplest method.

Some characters can't be produced from the keyboard, either because they aren't currently set in the English language version of the PCW or because they are control characters, so there are other ways of defining them. The next simplest method is to use the Ascii number of the character in either decimal or hex notation. For example, any of the following lines in a SETKEY file would make the 9 on the numeric keypad produce a backslash:

```
04 N "\"                Unshifted with backslash in quotes
04 N ""92""             Unshifted with decimal code
04 N ""#5C""            Unshifted with hex code
```

Note that the up arrow ([EXTRA]+;) has to be there with the numbers and that the number must be in single quotes. This constraint applies when using the names of the control codes as you'll see in a moment. The final thing to discuss is the capital N. This simply means that the key numeric pad 9 produces a backslash when used in the normal state, with no shift keys.

Instead of the N you could have specified A for [ALT], S for [SHIFT], E for [EXIT], SA for [ALT][SHIFT] or any combination thereof. If you include more than one shift state – for example if you had 04 N E SA "\" in the line above – then the numeric pad 9 would produce a backslash on its own or with the [SHIFT], the [SHIFT][ALT] or the [EXIT] keys.

But let's look again at the control characters that can't be printed, like [RETURN]. There are times, for example with some public domain comms programs, when it would be nice to be able to produce certain control characters. Well, as already stated, these can be produced in several ways. Making the same 9 produce the Escape code when pressed with [SHIFT] (the code produced by the [EXIT] key) can also be done in several ways: by quoting the character's Ascii code (as above), by representing it as an Escape-character combination or by giving it its name, which is a method you may not have come across (all the codes lower than 32 have a name – bet you didn't know that). So the line in the SETKEYS file could look like any of these:

```
04 S ""27""             Shifted with decimal code
04 S ""#1B""            Shifted with name of code
04 S "^["               Shifted with Control-square bracket
```

So now you know how to change one character into another or produce control codes let's write a useful file for SETKEYS to work with. On the 9512 discs there is a utility called CPMKEYS that resets the keyboard to its standard layout. Here, for the 8000 series machine is a file that resets most of those likely to be altered. In particular it puts the cursor keys right after WordStar has been used.

Those of you who use the public domain VDO25 editor (which 8000 Plus gave away on the subscribers' disc) or any of its variants, generally use the KEYS.WP file with SETKEYS to make the editor work with the cursor keys and so on. This little file will set most of them back the way they were. Just make an Ascii file of the lines and call the resulting file something memorable; OLD.KEY perhaps?

The lines you need are in the margin box with the title, Curseless keys. To produce it you can use RPED, VDO25 itself, LocoScript with the Make Ascii file option or even PIP. One of the joys of working with computers is that there are almost always several different ways to get from here to there.

Curseless keys

This is the file that will reset most of the keys to the way they operate when the PCW is first turned on. For anyone working with a variety of software this short file can save an awful lot of irritation.

```
66 N "^C"
02 NS "^Z"
00 NS "^Q"
73 NS "^S"
77 NS "^P"
16 N "^G"
75 N "^H"
10 N "^U"
03 N "^W"
20 N "^I"
14 N "^. "
23 N "^V"
15 N "^A"
06 N "^F"
05 N "^E"
01 N "^R"
79 N "^30"
16 A "^K"
76 N "^\"
79 A "^E"
72 A "^X"
13 N "^#6F"
13 S "^#90"
E #6F "F^B"B"
E #90 "F^B"
```

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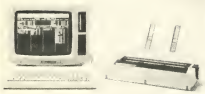

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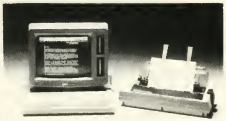

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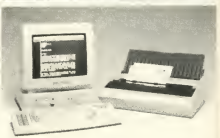

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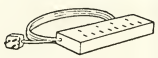

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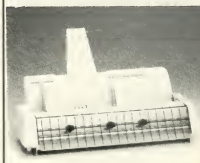

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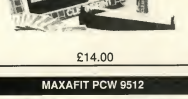

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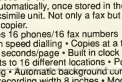

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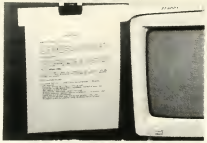

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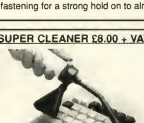

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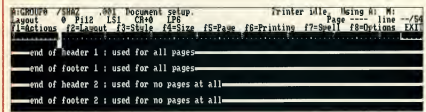
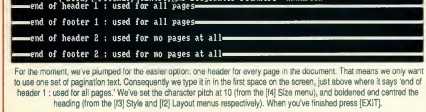
LocoScript 2

Headers are part of the fundamental set-up of your document. To set up the pagination text (LocoScript's posh word for headers and footers), you need to select Document setup from the [f1] Actions menu. Don't forget, though, that this must be the Actions menu that you can open from within Edit mode, not the one you can access from the Disc Management Screen.

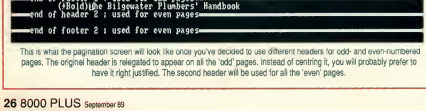


Once you've selected Document setup and pressed [ENTER], the rather strange-looking pagination screen will be displayed. It's divided into four strips because LocoScript allows you to make use of two sets of pagination text if you so desire – one header and footer for odd-numbered pages and another header and footer for even-numbered ones.



For the moment, we've plumped for the easier option: one header for every page in the document. That means we only want to use one set of pagination text. Consequently we type it in in the first space on the screen, just above where it says 'end of header 1 : used for all pages.' We've set the character pitch at 10 (from the [f4] Size menu), and boldened and centred the heading (from the [f3] Style and [f2] Layout menus respectively). When you've finished press [EXIT].

To use both sets of pagination text – for right and lefthand pages – go back to the pagination screen, and choose the [f5] Page menu. Select Header/footer options and you will see this settings menu displayed on your screen. Change the default selection from all pages to odd pages. Press [ENTER] to confirm your choice, then [EXIT] to return to the document.



This is what the pagination screen will look like once you've decided to use different headers for odd- and even-numbered pages. The original header is relegated to appear on all the 'odd' pages. Instead of centring it, you will probably prefer to have it right justified. The second header will be used for all the 'even' pages.

SET 'EM

First of a new series in which Sha to look the part - fro

LocoScript remains the confirmed darling of many PCW owners by simple virtue of the fact that all its special style and layout features are simply and intuitively accessed using the menu system.

Headers and Footers are special snippets of text – not usually too long – that appear at the top and bottom of a printed page. Apart from endowing each page in a multi-page document with a 'sense of belonging' they also add a touch of professionalism to the document's overall appearance. They make your printout – whatever the subject – look slick and business-like.

Using LocoScript 1 and 2, you can set up the text for your headers and footers so that when the time comes to print out your document – regardless of how many pages there are – the program will automatically slot these special pieces of text into each page.

Each page that you feed into your printer has three separate zones: a small one at the top and bottom for the header and footer respectively, and a much larger text zone in the middle. By the time you've taken away the top and bottom gap always left blank during printout, a standard A4-size piece of paper has 61 lines available on which to print. Three of these are then taken up, below the top gap, by the header zone. The footer zone, above the bottom gap, occupies another four.

This month let's take a look at how you would go about setting up a simple header using first LocoScript 2 and then LocoScript 1. We will assume that you've already written and saved your document as a normal file. Open it as usual, whichever version you're running, using the [E] (for Edit) key.

LocoScript 2

In LocoScript 2, headers are decided through the Document Set-up option. This presents you with a rather unusual screen – the pagination screen. It's divided into four sections because LocoScript allows you to have a maximum of two sets of pagination text per document. The reasons for this will become clear later on.

For the moment, all we're interested in is setting up a header that is going to appear on every page of our document. This means that we're only going to concern ouselves with the very top strip, just above where it says 'end of header 1 : used for all pages'.

The Header we've chosen is a simple one-liner – and, in most cases, it will be just that. Having said that, though, there is nothing to stop you from having a multi-line header. Your only limit is the size of the header zone: three lines. And for the moment, we'd like to stick to that.

You can embellish this text in exactly the same way as you would normal document text. It's up to you to experiment with LocoScript's various style options. When you're happy with the text you've typed in, press [EXIT]. You will then be presented with a short menu offering a choice of two options. Both of these take you back to your document without losing any of the changes you've just made.

Ambidexterity

If you look at any professionally-produced book, magazine or even pamphlet, you will notice that there is often a difference between the layout of a righthand (odd-numbered) page and a lefthand (even-numbered) one. Take a look at the magazine you're reading now. The folio at the top of the

UP, JOE

Sharon Bradley shows you how – from top to bottom

page which describes what sort of an article it is we're reading is positioned at the top, righthand edge of an odd-numbered page and the top, lefthand edge of an even-numbered one. Supposing we want to make this distinction with our headers throughout The Bilgewater Plumbers' Handbook. To do this, we effectively need to set up two headers for the document.

Back at the pagination screen, you should find your original header – boldened and centred – waiting for you. This, your first one, is the header that the program will relegate to all your righthand (odd-numbered) pages. Consequently, you don't want it centred anymore, but aligned against the righthand edge of the page.

Move the cursor into the space just above where it says 'end of header 2: used for all even pages'. This is where you are going to type in and store the layout details for your second header. Type in 'The Bilgewater Plumbers' Handbook' again, not forgetting that this header will be used only on even-numbered and therefore lefthand pages. The text naturally defaults to a left align position, so don't alter it. Just bolden it for added emphasis.

The Header/footer options in the [f5] Page menu reveal another menu featuring all the different applications to which you can put your header text. Change the current selection from all pages to odd pages. This ensures that header 1 will only appear on odd-numbered (righthand) pages. Header 2 will automatically appear on lefthand pages alone.

LocoScript 1

Although starting from exactly the same point, producing the same effect with LocoScript 1 requires a rather different procedure and is far less intuitive. First of all, we need to call up the Pagination menu. This menu will ask you to make a decision now as to whether you're going to have the same headers and footers for every page in your document, or whether you want different layouts for odd and even-numbered pages.

Select the Edit header option from within the [f7] Modes menu. This will be visible at the top of the screen once you've opened your document with the [E] key. Press [f7] for Options, then [f8] to access the Pagination menu.

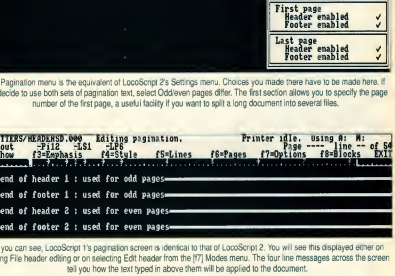
Once you've confirmed your choice, you will be presented with the by now somewhat familiar pagination screen. Type in the header in exactly the same way as we did with LocoScript 2; you can use all the same stylistic devices on your header text that you would use in an ordinary document. The only difference here is that they aren't accessed in quite the same way. The [f3] Emphasis menu allows you to bolden or underline text, while the [f4] Style menu takes care of the pitch, width and height of the characters. The [f5] Lines menu, meanwhile, will help you set up any justification or centring that might be required.

First things last

You might want to give the first and last pages of your document some special treatment. If your first page has a large title on it already, then there wouldn't be much point including a header on that page. Similarly, if you have used 'continued ...' as part of the footer text, it's going to look pretty daft if it appears on the last page. LocoScripts 1 and 2 always cater for such variations in taste; they are decided in LocoScript 2's Header/footer options (Page menu) and LocoScript 1's Pagination menu (Options menu).

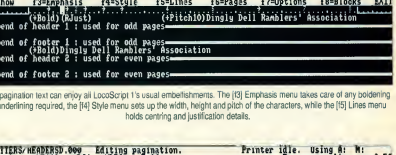
LocoScript 1

The first thing you have to decide when setting up headers and footers in LocoScript 1 is whether you want to have the same text on every page of the document or not. As in LocoScript 2, you have to start from within Edit document mode. Open the [f7] Modes menu and select Edit header. From there, open [f7] Options and then [f8] Pagination.

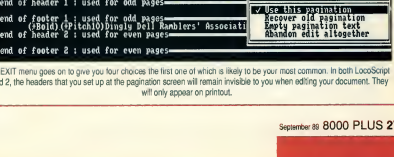


The Pagination menu is the equivalent of LocoScript 2's Settings menu. Choices you made there have to be made here. If you decide to use both sets of pagination text, select Odd/even pages differ. The first section allows you to specify the page number of the first page, a useful facility if you want to split a long document into several files.

As you can see, LocoScript 1's pagination screen is identical to that of LocoScript 2. You will see this displayed either on leaving File header editing or on selecting Edit header from the [f7] Modes menu. The four line messages across the screen tell you how the text typed in above them will be applied to the document.



The pagination text can enjoy all LocoScript 1's usual embellishments. The [f3] Emphasis menu takes care of any boldening or underlining required, the [f4] Style menu sets up the width, height and pitch of the characters, while the [f5] Lines menu holds centring and justification details.



The EXIT menu goes on to give you four choices the first one of which is likely to be your most common. In both LocoScript 1 and 2, the headers that you set up at the pagination screen will remain invisible to you when editing your document. They will only appear on printout.

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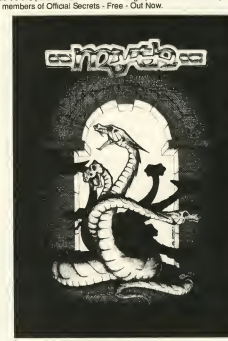

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CHECK ACCOUNT TWO

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For those of you out there who like to keep day-to-day tabs on your money Check Account Two (the upgraded version of Check Account which was first reviewed in July '88) might be just the program you're looking for.

Molesoft designed the program specifically to help you manage your personal, household accounts, and, as such, there is absolutely no mention of double entry book-keeping or VAT returns.

It will, however, allow you to monitor the ins and outs of up to four different accounts per disc. These could be a joint account, your own personal account, a savings account and so on; it's up to you.

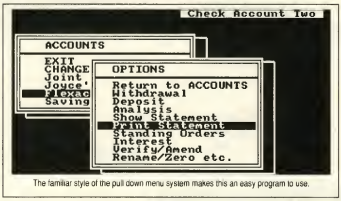
Once you've specified at the opening menu which account you'd like either to examine or amend, an Options menu appears on the screen. This menu and its choices are identical regardless of which account you're 'in' and supplies you with all the tools you're ever likely to need to successfully manage your money.

Through the Options menu, you can make withdrawals and deposits, and even have an analysis of the account displayed on the screen. As well as showing its current state, this option also shows both the minimum and maximum figures to which the balance has either plummeted or soared in current and previous months. The program also marks the passing of time in looking at last month's spending levels and carrying them forward into the next month. It's comforting to know whether you're going to be rolling in money or lying in the gutter in six weeks' time.

Check Account Two differs from many programs of its ilk by providing flexible and comprehensive interest-calculating options. Not only does it monitor what interest you're owed on your savings, it also works out how much you will have to pay on your overdraft (that's more like it). The program also handles tiered interest rate accounts where interest paid depends on how much has been deposited; there are seven interest levels. Each time you boot up, the appropriate information is updated.

One of the main differences between Check Account Two and its forerunner is its ability to cater for a maximum of 111 standing order transactions a year – into or out of the account in question. These can be yearly, quarterly, monthly or even transactions that take place only ten months a year.

Check Account Two's screen displays operate on a LocoScript-style pull-down menu system and, while busily



The familiar style of the pull down menu system makes this an easy program to use.

informative, are confidence-boosting and easy to read. For the minimally-organised person who wonders from time to time exactly where his or her money is going, this friendly little package will be ideal. ■

RANGE OF FEATURES 5
EASE OF USE 5
PERFORMANCE 4
DOCUMENTATION 3

8000 PLUS VALUE VERDICT 4

EASI-ACCOUNTS SYSTEM

£23.95 ● Arctan Computer Ventures ● 1 Foxwell Square, Southfields, Northampton NN3 5AT

EAS is another PCW-based accounts package which has been designed to satisfy either the needs of the small business-man or those of the very organised person who likes to keep track of personal expenditure. The program will conceivably take care of both requirements at the same time, although this isn't a recommended course of action.

EAS's trump-card lies in its speed. The program is memory-resident which means that it doesn't occupy any part of the RAM disc. Consequently, accessing different parts of the program takes a barely perceptible amount of time; its creators claim that many of its features work much faster than similar ones on other programs.

The program works on the age-old system of ledgers, each ledger comprising lots of single entries with each entry representing a transaction. Up to 500 entries may be made per ledger. You can have up to 99 of what the program calls 'groups' in one ledger. These are just a series of classifications into which every transaction should slot: Salary, Mortgage, Food and Drink, Car – to name but a few.

The ledger itself can easily be edited and manipulated to suit your own requirements. You can, for instance, sort each entry into a suitable order: according to year, month, date, transaction description and so on. The program's Import facility allows you to insert a ledger that has been stored to disc into the ledger that you are currently using.

EAS also provides flexible and potentially powerful List and Search facilities. You can select which entries in the ledger you would like to see listed together by marking them with a dot. By making further use of grouping coding systems, which would be included in the transaction detail box, you could pin-point all entries falling into various category combinations and save them to a ledger of their own – a facility that would come in handy when the time comes to produce those end-of-year reports.

Another use would be for cheques that have been sent but which remain uncleared. When you enter the transaction details into the ledger, you could put a code in the description meaning 'unreconciled' (which basically means that you've written a cheque which hasn't been cleared yet). You could then list them all together, compare them with a statement at a later date, and easily ascertain to what extent the ledger reflects the true state of affairs.

The manual assumes you know nothing about accounting and is, on the whole, well-written. The tone of the instruction is both patient and friendly – sometimes at the risk of stating the obvious. Page 3 informs the user, for instance, that 'the date is used for documenting on what day a transaction actually took place.' No kidding, Sherlock?

EAS is competent and efficient and delivers exactly what it promises; it has to be said, though, that the person who uses this program for his or her own personal, non-business use would have to be very organised indeed. ■

RANGE OF USE 3
EASE OF USE 3
PERFORMANCE 4
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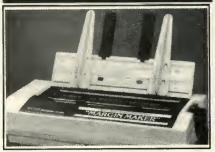

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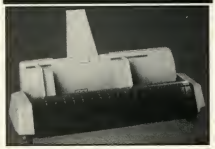

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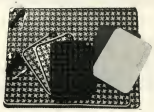

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BRING IT ALL BACK

Peter Stephenson goes down on his disc among the bits and bytes

No matter how careful a person might be, sooner or later a crucial file will inadvertently be erased. The file will usually be in the final stages of completion and without a back-up. Strange as it may seem, while CP/M has a quick method of erasing a file using the ERA command, it doesn't provide a means of reversing the procedure. Fortunately, the public domain offers a program with the power to put things right.

Despite the fact that a file on disc can be almost anywhere at all and even broken up into a number of separate pieces, CP/M can still find it again using the disc directory. The directory is always in the same place on the disc so CP/M knows where to find it. It contains information on the locations for all the parts of the file.

When a file is erased, the first byte on the file's entry in the disc directory is changed to E5 hex, indicating that the space occupied by the file may be used to store other data. The actual file itself remains intact on the disc until the space it occupies is written over by another file. Until such times however, the file can be recovered by making an appropriate change to the directory; that is by changing the E5 back to 00.

For clarification, the first byte in the directory signifies which group the file is stored in. Under CP/M, your files would normally be in Group 0 so the byte would be 00, but it could be any number from 00 to 0F (zero to fifteen decimal). Altering the 00 to a 01 or another legal number (between 00 and 0F hex) would move the file into a different user group.

There are many good commercial disc editors around that allow you to do this; the only disadvantage being they all cost money. In the anti-capitalist world of public domain, disc editors of high standard can easily be found. Probably the best, and the one that springs to mind first, is SUPERZAP.COM.

Superzap is a menu-driven disc editor allowing you to actually read and alter the bits and bytes stored upon your discs. This can be extremely handy in those situations where the PCW steadfastly refuses to do anything else except say 'A: track 0 sector 1 missing address mark – Retry, Ignore or Cancel'. Like all other CP/M programs, it is called from the A> prompt. On loading it gives you a menu of the available instructions. It's probably a good idea to practise on a copy of a disc made especially for practice purposes as a disc sector editor offers an awful lot of possibilities for data damage as well as disc repair. ■

```
                    SUPERZAP version 3.4

↑H  Cursor left          P  Previous directory page     Z  Exit from Superzap
↑L  Cursor right         N  Next directory page         C  Change disk
↑K  Cursor up            U  Change user number          S  Select track/sector
↑J  Cursor down                                         M  Set directory selection

E  Edit file             T  Type file

                    Directory list - A:????????.???

   CPM      .BIN      CPM      .BAK      CPM3S3   .SCR      CSWUNST.SCR
   CSPROTXT.SCR       CSSTOP   .SCR      K        .SCR      LOCODASH.SCR
   LOCODATE.SCR       MINI13S  .SCR      MINI23S  .SCR      OPENW63S.SCR
   SC283S   .SCR      SUPER1   .SCR      SUPER2   .SCR
```

Leaving aside the Edit commands for a moment, most of the other options on the menu are self-explanatory. C for example allows you to swap discs to your heart's content, while by typing U you can step through different user groups. S is the really important one for it drops you into the following menu from which you can unerase files from the directory.

```
                    SUPERZAP version 3.4

N  Next sector           T  Select track               Z  Exit from Superzap
P  Previous sector       S  Select sector              L  Exit to file list
I  Next track            B  Select block               X  Scratchpad operations
U  Previous track        D  Select drive               C  Change sector

Scratchpad :- Empty

          Select Function ===>

    Current-Track      Current-Sector      Current-Block      Current-Drive
         0001               0000               0000               A

0000000   00 53 55 50  45 52 31 20  20 53 43 52  00 00 00 80  |.SUPER1  SCR...€|
0000010   04 00 05 00  06 00 07 00  08 00 09 00  0A 00 0B 00  |................|
0000020   00 53 55 50  45 52 31 20  20 53 43 52  01 00 00 35  |.SUPER1  SCR...5|
0000030   0C 00 0D 00  14 00 15 00  00 00 00 00  00 00 00 00  |................|
0000040   00 53 55 50  45 52 32 20  20 53 43 52  00 00 00 80  |.SUPER2  SCR...€|
0000050   16 00 17 00  18 00 19 00  25 00 26 00  27 00 28 00  |........%.&.'.(.|
0000060   21 12 07 00  05 15 07 16  14 00 00 00  00 00 00 00  |!...............|
0000070   00 00 00 00  00 12 07 00  07 15 07 16  16 00 00 00  |................|
```

If you look closely at the mass of numbers, you will soon discover that one of the files has been erased. As mentioned earlier, during erasure all that happens is the first byte, 00, gets replaced by E5 in the directory and so, in the above example, the file SUPER2.SCR is in fact an erased file. To unerase it, just type C for change sector, and yet another menu will be displayed.

```
                    SUPERZAP version 3.4

↑H  Cursor left                    ↑L  Cursor right
↑K  Cursor up                      ↑J  Cursor down
↑I  Change Side                    CR  New Line
↑U  Cancel changes                 ↑2  Save Changes

    Current-Track      Current-Sector      Current-Block      Current-Drive
         0001               0000               0000               A

0000000   00 53 55 50  45 52 31 20  20 53 43 52  00 00 00 80  |.SUPER1  SCR...€|
0000010   04 00 05 00  06 00 07 00  08 00 09 00  0A 00 0B 00  |................|
0000020   00 53 55 50  45 52 31 20  20 53 43 52  01 00 00 35  |.SUPER1  SCR...5|
0000030   0C 00 0D 00  14 00 15 00  00 00 00 00  00 00 00 00  |................|
0000040   00 53 55 50  45 52 32 20  20 53 43 52  00 00 00 80  |.SUPER2  SCR...€|
0000050   16 00 17 00  18 00 19 00  25 00 26 00  27 00 28 00  |........%.&.'.(.|
0000060   21 12 07 00  05 15 07 16  14 00 00 00  00 00 00 00  |!...............|
0000070   00 00 00 00  00 12 07 00  07 15 07 16  16 00 00 00  |................|
```

All other information that was on the screen in menu 2 will remain the same, but on this screen the cursor will be positioned over the first byte of the directory, in this case the E of E5. Altering both the E and 5 to 0, the next step is to press ↑2 to save the changes, a procedure which automatically returns you to the previous menu and screen. With that, the deed is done.

NOW WE A

A chance to peer behind the scenes and catch us in the p

At last the story can be told: how 8000 Plus goes from being no more than a few ideas scribbled on a beer mat to its final presentation on the shelves. The premier magazine for PCW owners everywhere is produced in just a month and is a piece of legerdemain we've been performing for three fraught years now. This is the story of how men and women, armed with no more than a state of the art word processor, take the computer magazine market by storm - er, heavy downpour.

As readers who have been with us since the beginning will have noticed, the staff may change but the magazine just goes on getting better and better. Of course, those of us who joined the magazine later have the benefit of the earlier incumbents' experience, and we therefore find it much easier to get things right. So, on the occasion of our third birthday, instead of an in-depth expose of the public lives of the 8000 Plus journalists and their endless carefree carousing, we thought you might like to know a little about the magazine production process here in the throbbing heart of the Future Publishing empire.

Magazines are composed of several disparate elements. The main ones in 8000 Plus are the editorial content, articles like this one, the Special Offers pages, which are Future's own merchandising arm, and the advertisement pages, which help to keep all the other bits separate. Getting the magazine out on time involves all these parts coming together at the right time.

The longest gestation period is for features and reviews. Because of the need to ensure editorial material comes in steadily, so that it can be processed by the art department, some material will actually be in the office months ahead of publication (that's why you haven't been paid). Basically the equation is that the sooner we get it in the better we can present it. Inevitably some material intended for a particular issue will get pushed out due to time problems, budget constraints or simply the arrival of better material; we try to bring you the best we can get.

Some parts of the magazine, like Special Offers, aren't under editorial control at all, but come under the auspices of the Marketing Manager. The art department prepare them in consultation with her and we're lucky if they even let us proof-read them.

The last major area is advertising, which works quite differently and independently from us. Whereas we like to get material in as early as possible, advertisers delight in leaving the sending-in of their material until the last possible moment.

Treadmills

Perhaps the most exciting, and most wearing, aspect of magazine production is the need to get one out every month. Despite endless entreaties from tired and emotional journalists, publishers consistently refuse to entertain any discussion of an 11 issue year. Clearly, having a month without an issue, say July or August, would give us all a chance to catch up on our sleeping/eating/correspondence or whatever. Write in now supporting this move.

Have you got a light Mac?

Yes, in fact all the Macintosh computers are that funny colour. Every magazine at Future Publishing is produced using the latest desktop publishing techniques, but they don't start there; we actually use PCWs in the office. As contributors will know we always ask for articles as Ascii files on three inch discs. These are read into Protext on our PCWs where any necessary editing is done. Naturally, we write all our own material on PCWs. In a remarkable show of solidarity we all actually own one for home use as well.

Thanks to the efforts of one of 8000's previous editors, Ben Taylor, we can do more than just edit files. Using the [EXTRA]x sequence that allows you to put in printer codes in Protext, we can incorporate formatting codes for typesetting. For example the code **pf24** is used to set the straplines beneath our titles to the right size and typeface in each article.

Thanks to Ben and Andy Wilton (who wrote Flipper), we can do something else rather clever as well. Rather than having to photograph the screen for illustrations of how programs should look, we can take a screen image directly from memory and write it to a file.

Once written, we then have to get these articles (and any associated screen shots) onto the Macs. But before we do this, all those codes we put in have to be made into something else. We have a program on the PCW, written by Ben Taylor again, that takes our marked up text and changes it, replacing the sensible codes we used with incomprehensible ones, for reasons that will become clear. Finally we're ready to move it across, and naturally, this involves comms. What we have is a simple lead connecting the RS232 on the PCW interface to the RS422 on the Mac (an RS422 is just like an RS232 but with most of the lines missing to make everything easier).

Speakeasy

Persuading computers to talk to each other is fundamental to a publishing company that deals in several titles as well as typesetting on Macs. Fundamentally, we only ever used to send Ascii files to the Mac (and back again). Even our screen shots were converted into something that looked very like the files HEXCOM works with (which are pure Ascii files). However, lately we've needed to send true binary files for screen shots in order to work with them in Quark. The PCW and our Mac are connected via the PCW RS232 and the Mac RS422. We use PMS Communication's Dialup on the PCW but used to use a public domain comms program on the Mac called Red Ryder; this unfortunately began to fall over on us. Now we use the comms module from Microsoft Works. The protocol we use is Xmodem, eight bits, no parity, one stop bit. For the benefit of anyone who would like to know, these are the cable connections that we use for our transfers from PCW to Apple Macintosh.

MAC RS422	PCW RS232
1	4
2	5
3	
4	3
5	7
6	2
7	
8	20

ARE THREE

n the process of preparing your favourite PCW magazine

Since we're dealing in software here actually getting the text onto the Mac is only the first stage. All the text then has to be run through a program called Makewrite; that takes the incomprehensible codes put in on the PCW and turns them into sensible codes that Macwrite can understand. With the text in Macwrite we do any final subbing required.

Turning the page

At this point we've nearly finished the first stage, and all that remains to do is to pour all the finished text into a simple page design in our desktop publishing software on the Mac, Quark Express. Now we mark up the text, which simply means getting all the body text, margin notes, captions, cross heads and titles to the right font and point size, on the right leading and in the right style (bold, italic and so on). This rarely takes more than an hour or so.

The marked-up article and any screen shots are then put on a disc and go with all other material to the art department where Julie Barnes, our Art Editor, will attempt to turn it into an attractive page for the magazine, a highly skilled and often underrated job. Using Quark Express again, she will lay out the text and create boxes for pictures and illustrations on the screen. She also has yet another program (written by the ubiquitous Ben Taylor) which turns the screen shot file into a file that Quark Express can incorporate into a document. This means that Julie can actually work with a picture of a PCW screen on her Mac screen, resizing it, cropping it and relocating it to her heart's content.

Once Julie has the page pretty much how she wants it to look she sends it to a laserprinter and we all get a look. It's at this stage that she will ask for text to be either added to this bit or taken out of that bit to make it look right, which we do instantly and without a murmur. And of course there are all those typos to put in, grammatical errors to add and punctuation to get wrong; this is the stage at which we add all these special extras.

Colour separates

If you look carefully at the pages of 8000 Plus (as you always do) you'll see that some are just black and white, some have colour photographs on and some just have flat areas of colour (coloured borders, words, lines and so on). These pages are treated slightly differently.

Once made up on the Mac and the final laserproofs approved, the pages are sent down yet another cable from the Mac to a Linotron as Postscript files, which is a page description language. A Postscript file is a bit like an enormous listing, which the computer in the Linotron can interpret. The Linotron does exactly what the listing tells it to (most times) and can produce the finished page just as you will finally see it in 8000 Plus, same size and everything. If the page is a mono (black and white) page, then we generally get a black and white print that looks just like an ordinary page; this is called a bromide.

If the page is colour then the Mac can be made to send colour separations to the Linotron and we get the page out on transparent film. These films are all black and white but they carry the information for the cyan, yellow and magenta printing plates (not green, yellow and red, note), along with a final one for black. For pages without any colour photographs on that's all that needs to be done by us.

Pages with colour photographs have to have spaces left for them on the films. The films and the photographs then go to a reprographics house where the colour pictures are scanned by a device far too expensive for us to afford, turned into bits of film and these extra bits of film stripped into the relevant colour separations. They are then ready for the printer.

Time is always the enemy on magazines. Despite the cost almost everything gets sent by couriers. But once the printers have the pages, all that remains to be done is to make up the plates from which the magazine will be printed, set up the presses and run them off – which they do at nearly ten thousand copies an hour. ■

Comms made easy

It's an interesting observation that even in this hotbed of computer boffins our connections are not quite perfect. We can send from the PCW to the Mac at 9600 baud but only at 1200 baud in the other direction; any faster and the errors mount up so fast that the Mac spends all its time re-transmitting packets.

Oh, my ears and whiskers.

Deadlines, so called because if you miss them you're dead, are the bane of journalists' lives. On magazines there are several of them.

Cover copy	**In the first few days of the issue we have to decide what the cover will be.**
Cover artwork	**Get it organised. This may involve setting up photography or commissioning drawings.**
Colour copy editorial	**Copy for colour pages finished.**
Mail order colour	**Copy for special offers pages.**
Mono copy editorial	**Last day for us to pass mono copy to the art department.**
Cover sent to printers	
All artwork at the printers	**If we miss we pay for the use of the presses we've booked anyway, at over £600 per hour.**
Printer delivers magazines	
Magazines go on sale	

These are just the highlights from a list of deadlines a page long. Basically, any copy that misses a deadline is lost. This means that even if something looks like missing then we have to be prepared to replace it with something else.

Working backward, the printer delivers a week before the magazine goes on open sale, we send the artwork a week before that, final mono copy goes in a week before colour copy and colour copy a week earlier still. As you can easily work out, we're well into the next issue before the previous one appears, so forgive us if we occasionally appear just a tad confused.

AIDING AND ABETTING

Spreading the word from big to little screen; Diane Branton, with a little help from her PCW, puts everyone in the picture

I suppose it all started while I was lying on a bed in Ward 19 of the local hospital. There I was, lying with my leg suspended in a Heath Robinson-meets-Mecano-type contraption, when a friend of mine, who never appears without bringing me a problem to solve or some work to do for our Film Society, came to visit.

Depositing a huge pile of publicity leaflets on my bed he pulled out a pamphlet about the Amstrad PCW 8256. He handed it to me with the immortal, and consequently, life-changing words, ' ... I can get one of these for £100 second-hand.' Overly optimistic as it turned out.

Thirteen weeks later when I got out of hospital, the dealer broke the news that there would be no cheap second-hand computer. Remember when any Amstrad dealer of repute was offering £50 for old machines in the belief that folks would trade in their 8256s for the new 9512? Well, canny locals were buying cheap typewriters to trade in and the second-hand 8256s for £100 never materialised. I took a deep breath and ordered the last new 8256 that they had available at the old price.

Thirty-two years ago, a polio innoculation caused me to contract something called Still's Disease (now called Chronic Juvenile Arthritis). Of course, it wasn't diagnosed for many months, but suddenly I could no longer run or jump. My expected reprieve never came.

My parents cared for me at home and I attended the local schools. It was disappointing when I couldn't go on to take Genetics at York University because of the lack of adequate care facilities, but I decided to take a college accountancy course instead. About twelve months later, deteriorating hip joints meant that at 21 years old, I was one of the youngest people to be given replacements.

Since then I have never been well enough to 'work' again, but I have had 'new knees' to match the hips. Years of taking dangerous drugs has added Osteoporosis to my list of complaints.The implications of this are that simple activities like standing and walking can sometimes induce a stress fracture in my leg.

Undergoing yet another enforced spell as a Mecano model?

New arrival

The PCW arrived about a week later. An old trolley table had been commandeered in preparation for the great event. Such was the speed and depth of the delivery man's introduction to the machine that I was semi-proficient with the set/clear keys by the end of day one.

I started with LocoScript 1 of course; a friend was so eager for me to become LocoScript 2 literate straight away that he lent me a copy until I could afford my own. Thus I claim the distinction of learning LocoScript 2 from the LocoScript 1 manual.

Summer was spent with my computer and me getting to know each other a little better. The computer supposedly makes regular writing tasks easier and quicker. Wrong! I found 'three-line' letters turning into full page ones, letters to friends becoming novelettes and layouts taking hours to set up just so – everything always a little better than before.

September brought it all. My Open College course began and the Film Society swung into action with presentations for a local arts festival and two drive-in movies. Me and 'Puter spent ten days bashing and beeping at each other; we churned out press releases, press reports, complimentary tickets, information sheets, more press releases, course assignments, letters ... until we could do no more, and eventually laid our brain cells and silicon chips respectively down to rest. Little did we know.

Foolishly or otherwise, I offered to tap up my boyfriend's Open University essay for him. Horrendous words like 'photoisomerisation', 'halobacterium' and 'cyanobacteria' glowered up at me periodically from the page, but just as soon as I saved one of them so that I could paste it in, I would find that the next one had a different ending.

Time was short, though. We edited on screen and, with an unspoken prayer, I entered the order to Print High Quality. Phil was suitably impressed as each page appeared bearing his name, student number, course code and correct page number. He even enthused over the equations: apparently they have to be typed in separately on his work reports because the company's IBM word-processor can't cope.

'And ... action!'

Meanwhile, the Film Society had been gathering its resources ready for the new year. We operate on an 'if they won't come to you, go to them' system; in theory, we take the latest in big-screen entertainment out to the community. In practice, it is one huge headache of getting films, equipment and volunteers to the right venue at the right time – and letting everyone know about it. Telling the media is my particular part of the headache.

The January Showbill seemed a big success. It had taken hours to work out the layout, but with a strong determination not to buy a pot of glue, a two-columned, double-sided sheet of A5 with all our films and venues on it eventually emerged from the printer.

A5 sheets line up neatly along the paper guide which makes column alignment easy. A few changes under the Page layout section of **Document set-up** reduced the gap at the top and made the bottom space almost non-existent. Pitch sizes also came into full use. Now it is relatively easy to produce an up-to-date issue each month.

When my brother came home from college with a huge project to type up, the restrictions of an unexpanded memory became obvious – 'Save and continue' was becoming a way of life. The simplicity of 'Loco logic' also meant that, with a minimum of instruction, Paul could do some of his own typing.

How has my life changed? I've always loved to write, but before the PCW came along, it was becoming very painful for me to grip a pen or hit the typewriter keys ... now perhaps I'll get round to writing that book. ■

Clapperboard

The Weston Coyney and Caverswall Film Society began life ten years ago as a result of all the cinemas in the district being closed down. Now known affectionately as Staffordshire Reels on Wheels, the ten-strong company concentrate on taking the latest big-screen releases (before they come out on video) to town halls, WIs, auditoriums and so on. The company's patch covers any venue that happens to lie within a 35 to 40-mile radius of the society's original base in Caverswall. Admission to a showing costs £1.50. Diane takes care of all the Society's publicity, composing leaflets and pamphlets for local libraries and shop windows.

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by Rob Ainsley

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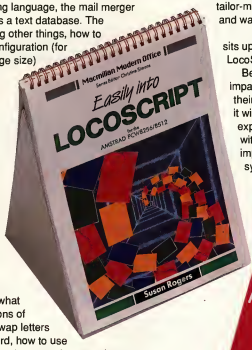
Something like three quarters of all PCW owners use LocoScript as their word processor. This is largely due to the fact that LocoScript is the program supplied with their machine when they buy it. It's also true, that many people, by virtue of that fact alone, remain ignorant of the existence of other word processors and their benefits.

Rob Ainsley has written this book for the first-time user of Protext. The advantages to be gained from switching to Protext are manifold, says Ainsley: it's faster, more flexible, works from CP/M and has a much greater range of features to choose from. The conversion, he argues, can be quick and painless.

Roughly speaking, Protext – A PCW User Guide is divided into three sections. Chapters 1 to 10 cover all the fairly basic stuff, like creating, saving and editing documents, manipulating blocks of text and setting up headers and footers. Part Two, meanwhile, is more concerned with the program's built-in programming language, the mail merger program, and using Protext as a text database. The author also shows you, among other things, how to go about altering Protext's configuration (for example, line spacing and page size) so that you can bend the program to your own requirements. Each chapter finishes with a summary consisting of a quick-fire volley of notes to help you consolidate what you've just learnt.



The third section of the book is called 'Tips' and each individually-indexed paragraph reveals the secrets of some hitherto unexplored nook or cranny of the program: it's almost definitely going to be worth your while having a browse through. Learn, for example, what particularly arcane combinations of key presses are required to swap letters without retyping the whole word, how to use hard and soft hyphens to your advantage, how to print addresses on envelopes without Protext treating the envelope as an A4-size piece of paper and design your own characters – to name but a few.

At the back of the book are a number of useful appendices which act as quick sources of reference. The LocoScript to Protext conversion chart will prove particularly beneficial for those readers who know LocoScript well but who are changing to Protext. The author lists the LocoScript command to perform a certain function on the left hand side of the page and beside it places the Protext equivalent.

Ainsley's approach is both friendly and easy to follow. The unassuming, tutorial like approach is just what any potential user of an unfamiliar program is going to need. And let's face it, as former editor of the best PCW magazine around, he ought to know what he's talking about. ■

EASILY INTO LOCOSCRIPT FOR THE AMSTRAD PCW 8256/8512
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8000 PLUS VALUE VERDICT 5

EASILY INTO LOCOSCRIPT FOR THE AMSTRAD PCW8256/8512

by Susan Rogers

£15.20 ● Macmillan Modern Office ● 0256 29242

If you've got a PCW 8256 or 8512 and you need to learn all there is to know about LocoScript 1 right now, then this book-cum-training guide will almost certainly be the one for you.

'Easily into LocoScript' by Susan Rogers, examiner in word processing with the RSA, is aptly titled. It has been written with the complete novice in mind and is tailor-made for self-study. Best of all, though, it's completely fool-proof and water-tight.

It's easy to overlook the fact that as well as a self-standing book (it sits up on the desk beside your PCW for ease of reference), you also get a LocoScript 1 training disc containing plenty of exercise material.

Before she gets stuck into the instruction proper, Rogers insists on imparting some basic, preparatory knowledge. To anyone acquainted with their PCW, it will sound like stating the obvious. To the absolute beginner, it will be a welcome, confidence-boosting introduction. Not only does she explore and define the fundamental concept of word processing along with the associated hardware and software, she also stresses the importance of making regular backups and *not* using the original systems discs supplied with the machine.

The best thing about self-study, of course, is that you can progress at your own pace. There are twelve sessions in all, each one covering a cluster of related LocoScript functions.

A list of objectives are supplied at the beginning of each session. In the first session, for example, you're told that you're going to load the LocoScript program, use the [CAN] key, create a document and perform some simple text editing. From then on, the training material is divided into two columns, the one on the left being a 'press this or that button' column, while the one on the right is more of a 'and this is what will happen' column.

Words which should actually appear on your PCW screen as a result of these key-presses are displayed in bold type. The book is liberally peppered with life-size screenshots just so that you can make absolutely sure that you've done what you were supposed to.

At the end of each session, there's a series of ten multiple choice questions for you to check that you've absorbed what you've been learning. There's also a Quick Reference Guide and glossary at the back of the book to quickly clear up any areas of confusion.

Susan Rogers, as we've seen before in our Book Look spot, is one of the best user guide writers around, and defies even the most complete computing dunderhead not to be completely au fait with the workings of that veteran word processor LocoScript 1 by the time they've turned the last page. ■

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SLOW RANGER

Computer consultant Annette Dougall interviews a man who farms some of the slowest animals on Earth.

Would you like to be your own boss? Quit the hustle and bustle of city life and slow your life down to a snail's pace and earn your living from the land? If so, you could find the good life by becoming one of the 50 or so snail farmers in Britain today. Robert Cooney, an American university graduate and former corporate executive, did just that two years ago when he started a snail farm that nestles deep within the rolling hills outside Bath. When it came down to choosing the computer system that would keep pace with his business, he plumped for a PCW.

After five years in the States, Bob and his English wife, Linda, ran a highly-rated guest house in Bath for two years. Having sold the business, they were looking for a new venture in which to invest their capital. Born of a farming family in the American Mid West, Bob was keen to work on the land, but the 24 hour a day, 365 day a year nature of conventional farming did not appeal to him; nor did he want the huge capital commitment it required or the stresses provoked by employing others.

While looking for the right small-scale upmarket commodity, an article on snail farming prompted Bob to attend an open day of the British Snail Farmers' Association at Rode in Wiltshire. Once they were convinced that the project was viable, it took nine months to find the right property; this consisted of a beautiful house in the country, suitable outbuildings and 2½ acres of land. And so, in March 1987, with the capital from the guest house, plus a loan from the bank, Helix Enterprises was born.

Slow rate of return

Most people consider snails to be slimy, unpleasant creatures who create havoc in the garden, the kind of creature most people put a lot of effort into destroying, but that could be taking a completely wrong approach; instead of getting rid of them perhaps you should be encouraging them.

According to Bob Cooney, they are extremely nutritious, fat free, with a unique texture and delicious taste because of their ability to absorb any flavour. They are also a natural aphrodisiac. In short, he describes snails as a 'perfectly evolved food source'.

With the international market for this particular delicacy increasing, snails are being over-harvested. In five to ten years there will be a world shortage of them. In the medium to long term, therefore, the profit potential is assured. But snail farming is definitely not for those looking for a get-rich-quick scheme. During the two years Bob has been in the business, the farm has produced no income. He's come close to quitting on two occasions but is determined to make a go of it. He says, 'I've found my niche if we can make some money on it.'

Robert Cooney uses a PCW to help him run his livestock business. The PCW proved more than adequate for coping with all aspects of the snail business as well as other money making activities.

Shelling out

While the snails gorged their slow way to selling size, Bob and Linda still needed to make a living. In March 1988 they won the contract to organise the World Frozen Food Congress in Nice. With individual arrangements to make for over 250 delegates, speakers and guests by June, they had to complete a lot of paperwork in a very short time. To do so manually, they would need at least one, possibly two, full-time secretaries.

Not wanting to make a large investment at this time, Bob and Linda shopped around carefully for a computer which would undertake all the work required at a reasonable cost. They decided that the Amstrad range offered greater power and flexibility for price than anything else on the market. The competition narrowed down to a straight fight between the PCW 9512 and the 1640. Should they spend an extra £1,000 on the IBM compatible with its well established software range or choose the cheap micro with integral word processing package and good quality printer?

To help the Cooneys buy the computer which was right for them, I took my PCW along to demonstrate the machine's capabilities. Having analysed the information they needed to run the conference smoothly, I set up sample files in LocoScript, SuperCalc2 and dBaseII. We compared the relative merits of the packages and decided that dBASEII and LocoMail could easily meet all their requirements. The 9512 had won by a knockout.

Bob and Linda duly purchased the machine and software for a total cost, including paper, discs, ribbons and so on, of around £750. One half day's training from me and one frantic phone call later, and they were up and running.

All conference, seminar and tour reservations were entered into dBaseII, which then produced listings for each event, calculated a complicated scale of charges for delegates and provided final total income figures. Relevant details were merged into LocoMail to produce booking confirmations and invoices.

Because of the short time-scale involved, Bob and Linda were forced to get right in and learn how to use the machine. Despite the fact that he occasionally found himself yelling at the computer at 2 am out of pure frustration, Bob found the whole learning process intellectually stimulating and a real challenge. He might have lost some sleep, but without the 9512, completing all the paperwork for the conference would have been a real nightmare.

Bob hopes to start supplying snails on a regular basis to local restaurants and hotels in the near future. One good restaurant could get through 500 to 1000 kilos of snails a year at a conservative price of £15 per kilo, a

minimum income of £7,500 per annum from a single good customer. By the summer of 1991, he hopes to have 100,000 reproducing snails, providing him with one million snails per annum. Given these quantities, he could sell directly to France. Or he could sell to Britsnail, a co-operative which buys British snails, processes them, then sells them on the French wholesale market.

Currently the French hold the monopoly on the world snail market. They consume 15,000 tonnes (a tonne is 1000 kilos) of the creatures per annum, 10,000 tonnes of which are farmed or, more generally, collected from the wild in France itself. They import a further 40,000 tonnes, re-exporting the remainder. The impending shortage has been exacerbated by Chernobyl. Balkan snails are no longer imported into France, because their foodstuff has been contaminated by radioactive isotopes.

At a snail's pace

The British snail industry is still in its infancy. Being one of the pioneers, Bob has had to learn slowly, and sometimes painfully, the best way to care for his snails. Progress has come by trial and error, but mainly from his observations of the animals' behaviour. Snails are nocturnal and Bob, a night owl himself, often observes them between 12 and 2 am, seeing what they do and do not eat, checking to see if they are mating and generally studying their behaviour.

Bob keeps two breeds of snails, Helix Pomaita and Helix Aspersa. The first livestock, 8000 sexually mature snails, were imported from France. Before they arrived, Bob prepared the farm by putting up a fine green fence around part of the land and planting the plot with a variety of food. At first he grew neat squares of different types of foodstuffs, but now he grows a mixture of plants, providing both a varied diet and shade. Snails need shade in the summer as exposure to sun and wind can dry them out.

This is an extensive, not intensive, farm. Rather than trying to get the snails to conform to behavioural patterns convenient to man, Bob is constantly adapting his farming methods to the snails' way of life in the wild. As he wants to develop a system which is as natural as possible, the farm is entirely organic, all food being grown chemical- and additive-free. He believes that contented snails will breed more plentifully and that his greatest chance for success lies with his own, home grown generations of snails, born and bred on his land. The soil on the farm, which is rich in calcium, has proved excellent for them.

The long sleep

Snails hibernate in winter, ideally for six months, so that they emerge when the plants have had time to grow in lush abundance. In the wild, some snails hibernate by burying themselves in the ground, many by crawling into stone walls. The first year, Bob collected all 80,000 snails by hand into boxes, then put the boxes into his thermostatically controlled stables. It's fairly clear that this is a labour intensive method of rounding up your livestock.

Then he accidentally discovered, by leaving some plastic sheeting on the ground, that snails, being sociable creatures, congregate beneath it. So the next year he arranged to round them up much more easily by laying plastic sheeting on the ground. The snails co-operated by congregating on the underside of the plastic and he then simply transferred this to the stables.

Bob did not put all his snails inside last winter, wanting, if possible, a more natural hibernation for them. In some areas he put down plastic sheeting insulated with straw and many of the snails hibernated successfully there. He now plans to build stone 'houses' in the snails' pens so that they can spend the winter in their normal environment.

Should we be learning to regard snails as tasty rather than unpleasant?

The sex life of the snail is extremely interesting, especially to other snails. Snails are sexually mature when they are about three years old and live for five to six years. They are hermaphrodites, having both male and female characteristics. They sense from the enzymes in the slime trail left by another snail when that snail is ready to mate. He/she shoots a 'love dart', a piece of calcium shaped like a spearhead, into the chosen partner, then mating takes place. About three weeks later both snails will lay anything from 80 to 120 eggs each.

Theoretically, snails can breed two or three times a year. But in practice only fifty percent of those who are sexually active will breed at any one time. Also, because of predators, Bob calculates a survival rate as low as 10 to 15 living babies per year per parent.

The year of the snail

The work on a snail farm is seasonal. Intensive preparations to the land are required from mid March to June, including growing food and building fences. Slugs have to be controlled because they compete for the snails' food. Grass and weeds, too, need constant attention. From June to October the main tasks are keeping out natural predators such as mice and birds, catching escapees and carefully monitoring the moisture level. Snails need moisture, which they absorb through their skin as they move along. In the autumn, those snails which are to hibernate indoors have to be collected. The hibernation temperature has to be monitored during the winter.

What do you need to become a snail farmer? 'Some money, a lot of patience and a lot of time,' Bob says. He has this advice to give to other would-be snail farmers. 'Buy 2,000 to 3,000 snails and try keeping them to see if it would work.' He estimates that it would cost approximately £40,000 to set up a snail farm, assuming that you already own about 10 acres of suitable land and buildings. This figure covers the cost of buying the initial stock, putting up fencing, insulating/preparing buildings for hibernation, and buying seed to plant the snails' food. The farm would provide you with no income during the initial three, and possibly more, years. Luckily, the snail farming cycle does allow time to pursue other income generating activities.

Bob loves his life as a snail farmer. 'How could my life be any better? Living here, being my own boss, working the land, watching things grow. I've got it made in the shade.' ■

Sunday Slimes

Together with Warwick Billings, an agricultural graduate who occasionally works with him, Bob is setting up the Snail Farmers' Society, a non-commercial endeavour, to produce a quarterly newsletter. The first issue will be published this autumn. Membership will cost under £10. They aim to bring together current snail research and to disseminate it. For further information, write to Robert Cooney, Helix Enterprises, The Barn, Carlingcott, Near Bath, Avon BA2 8AW, or telephone 0761-37071.

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PICTURE THIS...

Desktop publishing or integrated page processing with the PCW? Tim Smith spots the difference.

MicroDesign II from Creative Technology has been eagerly awaited since its first showing at the Which Computer Show earlier this year. The outstanding feature then was the speed at which the PCW screen was driven. But speed will always tend to be impressive; there has to be much more than that for a package to break new ground.

MicroDesign II is heralded by its creators as an Integrated Page Processor. At first glance this smacks of computer industry self-indulgence, like calling a bicycle an 'environmentally friendly transportation module'. Closer examination proves that this title has less to do with marketing than a genuine break with the kind of desktop publishing packages which have set the standards on the PCW.

A page (whether it be in a magazine, leaflet, poster or any of the other applications for which desktop publishing systems are used) has two main elements - graphics and text - that the software allows you to manipulate to produce the required layout. Up until now the text has been very much a poor relation. In an ideal world all of these would be perfectly integrated to produce a legible, professional-looking piece of work. This is what Creative Technology have set out to do with MicroDesign II, hence the title.

Little and large

MicroDesign II stores its pages in the form of bit-maps. These are basically a pattern of dots which on the PCW are either green or black (on or off). Ideally you will need to have a 512k PCW (8512, 9512 or upgraded 8256) in order to get the best from the program. The reason for this is that the program can use 256k of RAM to store a screen or area of screen. Using so much RAM allows MicroDesign II to define images and print them out at much higher resolutions than any previous desktop publishing software. To save disc space these high resolution screens are crunched down before being saved. Depending on how big the section of screen is that you wish to save, the disc-file size can vary from around 6k to 50k.

A PCW 8256 will be able to run MicroDesign II but can't use the program's full potential. The reason for this is that the program allocates memory to pages in progress in a very specific manner. A 512k PCW will be able to use a full 256k for each working page while the 8256 uses just 64k. Within these blocks of memory all the necessary work, including the printing, must be done.

So, without a great deal of fiddling about you will not be able to get the extremely high resolution printouts which set the software apart from its competition. The way around this problem, aside from upgrading your machine, is to make use of the Strip format. MicroDesign comes with three possible page formats: A4 Upright, Sideways and the Strip.

Strips can use either 64k or 256k depending on your machine. The Strip format gives the same amount of memory to a quarter of an A4 page as it would to an entire page using the other methods. To sum up, the possible arrangements are a 64k page, a 64k strip, a 256k page or a 256k strip.

It is possible to construct a single page from four of these strips to give the highest possible resolution page, though the planning involved in all of this must be meticulous (especially if you wish to flow text freely or have pictures of more than a quarter page in height). In fact the Strip format was originally called Letterhead in line with its intended use.

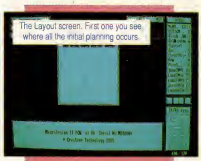
Choice morsels

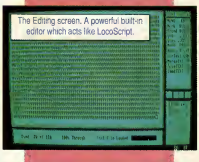
MicroDesign II is made up of a number of screens which are normally accessed from a pull-down menu on the left of the main layout section. The first screen worth a visit is entitled OPTIONS. This allows you to specify a number of preferences which are then saved as a file. The file is looked at by the program every time you boot up. Within it you store details such as whether or not you are using a mouse (Kempston or AMX), the speed of the mouse/cursor and other data relating to movement about the program.

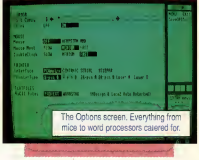
Happily, if you decide not to bother with a mouse, or you can't afford one, the package still handles very well indeed. In fact the only real reason for using such a device might be in the production of 'freehand' drawings.

This screen will also give you the first sight of the impressive way in which MicroDesign II copes with text. It recognises and will import LocoScript files automatically. Along with this you are also given the choice of Protext, Wordstar or Ascii files. In our test the only LocoScript control codes which could not be handled by MicroDesign were the Sub and Superscripts; but useful as they are for footnotes in academic work they have few uses in magazine or poster work. Creative Technology haven't left external word processors to take on the work of text entry. Included in the program is a text editor which is no negligeable piece of work.

It acts as a stand alone system and uses the familiar [+] and [-] LocoScript system for bold or underlines. Not only this but you have the ability to merge text files as well as copying and moving chunks around the screen. The







Going dotty

The print quality, even from the PCW printer, knocks spots off the competition, or rather it adds them. Output is extraordinarily good. MicroDesign II produces far higher resolution printouts than has previously been the case with other systems. The very highest definition is held in the 256k strip format files, but this can only be transferred to paper using 24 pin printers or laser printers, a limitation imposed by the nature of the output devices.

Most 9 pin printers can be driven in single, double and quad density both vertically and horizontally, including the built-in PCW printer, unfortunately Amstrad wouldn't tell Creative Technology how to drive the built-in printer at quad density horizontally.

This means that using an external 9 pin Epson compatible printer will produce noticeably better print quality in the highest definition modes. 24 pin printers have their own drivers so that aspect ratios are kept correct - circles will come out as circles and A4 pages print to the right length.

The laser printer drivers produce cleaner looking printouts because of the smaller dot size on the paper, but in fact the 24 pin drivers actually provide the highest definition on the paper.

Origin of the species

MicroDesign II was actually designed to run on the CPC6128. Four years passed before a full PCW version was ready for the market. Another small gobbet of information to allow the PCW owner to feel righteously smug is that according to programmer Simon Hargreaves the specifications for the PCW version are far higher than those for the PC.

speed at which all this occurs might fool you into thinking that you were in fact working on a dedicated word processor and not merely a section of a larger program.

Once you have written and edited the text the next stage is to position it on the main screen. This entails moving into what is really the central section of the program; the Layout screen.

An important feature here is that once you have set up the number of columns you require (from 1 to 8) you can save this information as a Template, again similar to the LocoScript method. The position of picture and text boxes, the scale/point size in which you wish the words to be typeset and whether you wish the text to flow around the picture boxes – all these details are held for use at a later date. This should prove extremely handy for a person writing a regular magazine or journal. You are able to create both right, left, front and back pages which can then be recalled with a click of the mouse or flick of the finger.

Icon see for miles

Once over the initial that someone has finally arrived at a system which treats words with respect you will need to deal with the illustrations.

As you would expect MicroDesign II comes with a sizeable library of icons (representing faces, musical and electronic symbols amongst others). As well as these you have access to thirty different fonts, none of which are too deliberately 'wacky', no wild west or space age fonts for example. This will not stop you from importing icons, clip art or fonts from other systems, such as Stop Press, or even from designing your own.

Editing all and any of these is a simple enough affair as both the fonts and icons have their own editing areas within the program. These consist of a grid giving a pixel by pixel map of the required image and an editing menu enabling you to manipulate the shapes and create your own.

Creative Technology have also taken a good hard look at the PCW market (the software took four man years to design according to the company). This is illustrated by the fact that clip art, digitised pictures and icons can be imported from the other PCW publishing packages on the market. The only limitation is that you are unable to resize anything to fit. This did indeed become frustrating and will hopefully be dealt with eventually by the company.

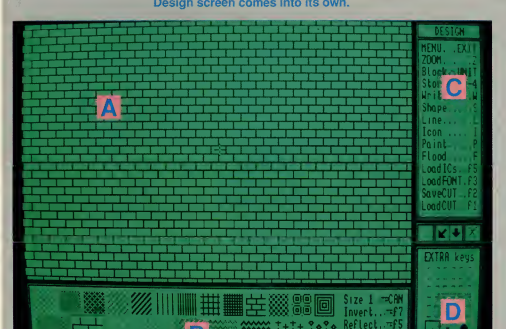
Prints of lightness

So what happens when you have your page set up, the immortal prose flowed in around the stunning images? You will need to print them out, the fundamental reason for which desktop publishing packages are bought. Yet again the product shows itself to be a force to contend with. Not only do you have the choice of the built-in 8000 series printer, you can also make use of external 9 pin or 24 pin printers and even a laser printer if you can afford such an article; there are specially written drivers for each of these.

Printing can be carried out in Draft or Quality mode, the former uses more pins to provide a more rapid result while the latter is far more precise and less grainy. You also have

The Design screen. A tour.

Once you have set-up your general layout you will need to begin work in some detail. You will need to set up pictures, create boxes for text and generally deal with the details which make a good publication excellent. This is the where the Design screen comes into its own.



A The Design Window:
All the actual 'freehand' drawing, painting and detailed design is carried out within this area. Only the area visible to you can be used to draw.

B The Icon Window:
Consists of two sections: the icon display itself and the icon menu. The latter section enables you to manipulate the current icon before placing it on the screen. This can be switched off to provide more Design Screen.

C The Design Menu:
Allows you exit to the main menu. It also contains the functions required to set up a good design screen:

1. The Zoom function consists of a section 62 by 120 pixels in area which can be worked either by using whole or half pixels.
2. Block and Store are two ways of saving and loading sections of the screen. Store will retain the section in long term memory. Block will only retain it in the very short term.
3. Write: this is useful for creating large headlines within graphics boxes.
4. Shape and Line: two ways of avoiding freehand drawing when creating accurate sketches.
5. Icon: this simply loads the currently selected icon onto the screen at the cursor position.
6. Paint and Flood: flood will fill any bounded area of the screen while paint allows you to choose the area. You can use either black 'ink', the current icon pattern or you can use either function as an eraser.
7. Load IC's, Font, Load and Save Cut: the first two options here are self explanatory (an IC being an icon!). The Cuts function will allow you to create and save your own artistic efforts to disc.

D EXTRA Keys:
The arrow on the left switches the icon window on or off. The one on the right gives two menus. Either the Scroll Map which enables you to move around the Layout screen or the Extra Keys themselves. Nearly every function requires a separate 'ink' type and this is where they, amongst other things, are chosen

Dave Axford and the second opinion

THE EXPLORER

ISLE OF WIGHT

Salt 'n' Pepper

On top of St Catherine's hill is a strange octagonal building known as the 'pepperpot'. Originally a lighthouse which was built by a Walter de Gadeston as an act of penance for receiving wine casks from a wreck.

RYDE has a pier which is half a mile long; built in 1814 it is the first entry point for passengers disembarking from the hydrofoil ferry. Many years ago trams used to travel on the pier, now ex-underground trains run to the end of the pier carrying their human cargo to and from Shanklin.

Rising steeply from the seafront are Regency and Victorian buildings, some with bay windows, standing proudly overlooking the Solent. The esplanade is wide and has many trees, east alongside the pier entrance is the islands hoverport; it is said that the journey between Ryde and Southsea was the world's first scheduled hovercraft service.

TRAIN STANDING AT END OF PIER

Body text in Stop Press has always left a lot to be desired because of the way the program treats text as graphics.

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TRAIN STANDING AT END OF PIER

MicroDesign II also treats text as graphics but the high graphics resolution produces better quality text even from the standard printer invasion. These forts were never used for that purpose and are known locally as **Palmerston's Follies**.

The first thing I did after creating my working disc was to follow the tutorial and print out the example page. This consisted of a masthead (title) with three columns of text which included a picture in the middle of the centre column. The question burning inside me 'Is it possible to get good looking text as well as graphics?' had been answered with a resounding yes! If I hadn't printed it out on the PCW printer myself I would have found it hard to believe. The quality was far in excess of my hopes.

The resolution used in MicroDesign II is four times higher than Stop Press. Despite the memory limitations on the PCW 8256 all is not lost when needing the highest of resolutions. MicroDesign II has a facility for creating Strip formats, four strips to an A4 page. If you own an 8256 it is possible to print all four strips in sequence to create a high resolution page.

You might think, as I did, that my library of graphics would now be defunct. Not a bit of it, MicroDesign II can import graphics from Stop Press, Desk Top Publisher, Newsdesk International, Mini Office Professional and Vidi digitised pictures. MicroDesign II doesn't have a graph facility but this is no problem for me as I can design my graphs in Mini Office Professional and import them onto a MicroDesign II page.

The program is easy to learn and use and I found it very fast at making up pages. Above everything else the output quality is very high. Anyone who creates a magazine or newsletter will find the template files a real asset with all the formatting details saved to disc. This means that you don't have to manually recreate those essential details of every page every time.

I found this a very professional program. So even if you already have a desktop publishing program and are using it seriously, then think about getting MicroDesign II for its quality output and speed. As the printout quality is higher than Stop Press you may be forgiven for thinking that the printing will take four times as long. I found it took about two and a half times as long to print out using the PCW printer; other printers can be much faster. A small price to pay – better to be getting on with something else (not on the PCW) than repetitively entering details on each page and getting a poor quality printout.

a choice of scales; full, half or quarter. These levels will give you a printout of varying size and density. This gives a ready ability to print quarter-scale draft proofs in order to keep an eye on your progress.

As well as the straightforward print-a-page option there are two further forms of print out: Text only and Queue. The former will not recognise any control codes (such as Italics or bolds) but will enable you to take the work away to check for style or spelling mistakes.

The latter, Queue, can be used in conjunction with the Strip facility we looked at earlier to produce high resolution output on an 8256. Queue allows you to print a number of files from disc (the page method will only print the page which is resident in memory). Consequently, when using continuous paper, for example, you can leave the PCW to print an entire publication overnight. To use the print Queue you must create a list of the files you wish to be printed using the built-in text editor. This file can be kept for further use and, combined with the Template facility, should take a great deal of the grind out of regular publications.

And finally

It must be said that this all too brief look over MicroDesign II has only scratched the surface of its capabilities. Minor moans relate to such things as the inability to resize clip art, the fact that you cannot create graphs, although you can import them from Mini Office and Stop Press, and the rather diminutive size of the Design screen (the section of the main page which can be worked on). This final gripe can be overcome by scrolling around the full page from within the Design section.

Aside from these moans (and the fact that Flipper refuses to run MicroDesign II at the moment) one point that deserves a special mention is the manual; produced using MicroDesign II with a little help from a laser printer. It begins with a tutorial which can be worked through in conjunction with files on the program disc. It is clear, concise and refrains from using terms which might confuse the first time user. It must be said that it is one of the best examples of technical writing we've seen tor a while.

In conclusion, with MicroDesign II the PCW world has gained a very strong publishing package (with a reasonable word processor if you require another one) which will produce printouts of an extremely high quality which after all is the point of the entire exercise. ■

MicroDesign II ● Creative Technology
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Stop Press

MicroDesign II takes over where Stop Press leaves off. There is no chance of Stop Press being upgraded to compete with MicroDesign II now, and in fact there would be little point; there is just too much ground to make up. With the prices of the two products being comparable it would make little sense to choose Stop Press. MicroDesign II would win out for the printer support alone.

THINKING

Geoffrey Childs introduces some good habits and maks su

The most important part of any program in the making is its subroutines. Now a subroutine is in itself a mini program, and may require at least some of the stages of development that we use on the major program. If they are planned properly and carefully written, well, in theory the rest shouldn't be at all difficult. An unplanned subroutine, on the other hand, (and by that I mean one that doesn't cater for all eventualities) may cause more problems than a similar mistake in the main body of the program; it's a simple case of look after the pennies and the pounds will take care of themselves.

Still, you've always got to start somewhere, and as you will see with this month's ongoing construction of our BRITMAP program, I usually start writing at line 5000. For some reason or other I have a habit of reserving lines 5000-5999 for subroutines. The number isn't important, the acquisition of a habit is. I have other habits such as using **z$** for a keypress and so on. Consistency makes for less mistakes as the programmer will be aware that certain variables must not be used out of their normal context. I prefer to use the shortest variable names possible, but this is a matter of taste possibly induced by bad spelling.

Some programmers use a subroutine library. This is probably useful for a more organised person than myself. There are two possible arguments against this practice: the first is that rewriting familiar code may lead to improvements; the second, that some standard subroutines may need altering for a particular program, and amendments can often take longer than rewriting from scratch.

An alternative which I do sometimes use is to load a similar program that I have written previously, find the routines I am likely to reuse in the new program and then delete the rest. Often, I don't bother. Programming is a little like playing an innings at cricket. It is helpful to start off with an easy ball, and the programmer can do this by writing code to get a keypress, which will almost certainly be one of the major subroutines required. Of course you could begin with any simple subroutine.

You may hear suggestions that all subroutines should be placed at the beginning of a program – or at the end. This is not entirely an old wives' tale, but it makes virtually no difference in Mallard Basic. Mallard has a useful knack of converting a line number of a GOSUB into an absolute address, so that each subroutine requires only a single search. Less sophisticated interpreters search every time they see a GOSUB. If that is so, assisting the interpreter makes a program run faster.

While the obvious reason for subroutines is for code that is used more than once in a program, I do not feel that it is wrong to use a subroutine for coding that is only used once. It may be less economical of space, but it can also make the program more readable.

There should be an awareness of the balance between these two considerations in the programmer's mind. It is also possible that a subroutine used once in an original program may be used again if the program is later developed to include extra options.

Future perfect

Getting into the habit of using subroutines in your programs has a less obvious value to any would-be programmers. Almost all other languages, and all compiled languages, use the equivalent of subroutines for all aspects of the progam. While they may be called procedures, functions or blocks, they are basically a collection of subroutines out of which the whole program is built. Getting into the habit of thinking in this way will help you if you ever become involved in using other programming languages.

Round in circles

On a slightly different subject, it might interest you to hear of some of the considerations involved in calculating the distances between towns. A change of one degree on a circle of longitude is about 69.1 miles. On a circle of latitude this is only true at the equator (since the circles get smaller as they get nearer the poles). The change is calculated by multiplying 69.1 by the Cosine of the latitude. Since the changes in position are only very small fractions of the circles, we can treat them virtually as straight lines. The 'vertical' (south to north) change is calculated, and the 'horizontal' change is taken by calculating at the middle value of the two latitudes. Pythagoras' Theorem is then used to compute the distance between the two towns 'as the crow flies'.

It isn't all that difficult to calculate the great circle distance between two points on the earth's surface without approximations, but this uses a relatively complicated mathematical technique. There is no point in programming to greater accuracy if the accuracy will be meaningless.

Since computers use radians instead of degrees for trigonometric functions such as Cos, it helps to know how to convert from one to the other. To change degrees to radians, multiply by Pi and divide by 180. A convenient way to obtain PI on a computer is to take 4*ATN(1). You could also remember that it is approximately 3.1415926535.

Gosub for subroutines

Here are the communications routines for our BRITMAP program. Line 5000 just takes a keypress. It is sensible to return it as an Ascii number as well as a letter. Sometimes it will be easier to use a number in the main program. Most people use **INKEY$**, perhaps because the manual does, but **INPUT$(1)** is much simpler.

```
5000 z$=UPPER$(INPUT$(1)):z=ASC(z$):RETURN
```

The subroutine at 5010 may look easy, but is an important one for good programming. **x$** contains the letters for the requested keypresses (e.g **x$="DAC"** for delete, add or change) and the subroutine converts to a number i for a correct entry. On return from the subroutine we are prepared for an **ON I GOTO** or **GOSUB**. Many programmers grossly underuse this useful facility.

```
5010 GOSUB 5000:i=INSTR(x$,z$):IF i THEN
RETURN:ELSE 5010
```

Strings of IF...THEN lines usually raise questions in my mind about a programmer's ability. The subroutine at 5020 is frequently used in BRITMAP and is a straightforward example of the use of the other two subroutines.

```
5020 PRINT FNa$(30,0);"Press A for another,
M return to menu."
5030 x$="AM":GOSUB 5010:RETURN
```

This involves the one piece of mathematics in the program. The routine finds the distance x between the two points (b degrees North, a degrees West) and (d degrees North, c degrees West).

```
5100 u=ABS(b-d)*69.1
5110 cs=(b+d)/2*ATN(1)/45:v=ABS(c-a)*COS(cs)*69.1
5120 x=ROUND(SQR(u*u+v*v)):RETURN
```

G HABITS

akes sure subroutines are the powerhouse for any program

This is the subroutine called in the initialisation of the program. It is usually quicker to have all the necessary file information in arrays, so that there is not continual disc access which takes time. The arrays have been dimensioned already, and this demonstrates a simple case of reading from both types of files (random and sequential). Nothing to it, really, if you follow the rules. **CVS** is used to convert the coded string, created by **MKS$**, back to a normal variable.

```
5700 OPEN"i",1,"town.seq":INPUT #1,me
5710 FOR n=1 TO me:INPUT #1,e(n):NEXT:CLOSE
5720 OPEN"r",1,"town.ran",30
5730 FIELD 1,20 AS town$,4 AS lat$,4 AS long$
5740 FOR n=1 TO me
5750 IF e(n)=1 THEN GET
1,n:t$(n)=town$:lo(n)=CVS(long$):la(n)=CVS(lat$)
5760 NEXT:CLOSE:RETURN
```

As we said earlier, most of the program will use the right side of the screen for a list of towns to which reference can be made by number. The only slightly unusual command is **PRINT USING**. This can often be a convenient way to tidy a screen. Learning to use it comes with experience, plus trial and error. By the way, using **IF e(n)** is shorter than the more explicit **IF e(n)<>0**, and has exactly the same effect.

```
5800 PRINT wr$+c$:FOR n=1 TO me
5810 IF e(n) THEN PRINT USING"##";n;:PRINT ".
"$(n)
5820 NEXT:PRINT wl$:RETURN
```

The rest of the subroutines aren't as wildly exciting as those we've looked at so far, but then subroutines often aren't. But as they form the nuts and bolts of the program we must include them.

Find the first unused entry.

```
5200 n=1:WHILE n<31 AND
e(n)=1:n=n+1:WEND:RETURN
```

Subroutines to create a new record and check that the town is on the map (**en$** enables cursor, **d$** disables it).

```
5300 PRINT en$;:INPUT"Enter name of town:
",t$:PRINT d$;:RETURN
5310 PRINT en$;:INPUT"Enter degrees: ",a
5320 IF a<c OR a>d THEN
PRINT"Between"c"and"d:GOTO 5310
5330 INPUT"Enter minutes: ",b
5340 IF b<0 OR b>=60 THEN PRINT"Under 60,
please!":GOTO 5330
5350 PRINT d$;:a=a+b/60:RETURN
```

Enter the new record in the random file.

```
5400 OPEN"r",1,"town.ran",30
5410 FIELD 1,20 AS town$,4 AS lat$,4 AS long$
5420 LSET town$=t$(p):LSET lat$=MKS$(la(p)):LSET
long$=MKS$(lo(p))
5430 PUT 1,p:CLOSE:RETURN
```

And adjust the sequential file.

```
5450 OPEN"o",1,"town.seq":WRITE #1,me
5460 FOR n=1 TO me:WRITE #1,e(n):
NEXT:CLOSE:RETURN
```

Choose a town, check that the record exists.

```
5500 INPUT"",p
5510 IF p<1 OR p>30 THEN PRINT"Try again":GOTO
5500
5520 IF e(p)=0 THEN PRINT"No entry for this number.
Try again":GOTO 5500
5530 RETURN
```

The power of an efficient set of subroutines is demonstrated clearly by the simplicity with which we can now write option 2, which calculates the distance between two towns:

```
2000 GOSUB 5800:PRINT en$;
2010 INPUT"Enter first town by number";p
2020 GOSUB 5510:a=lo(p):b=la(p)
2030 INPUT"Enter second town by number";p
2040 GOSUB 5510:PRINT d$;:c=lo(p):d=la(p)
2050 GOSUB 5100:PRINT:PRINT"Distance is"x"miles."
2060 GOSUB 5020:IF l=1 THEN PRINT c$:GOTO
2010:ELSE RETURN
```

Piece of cake, isn't it? The subroutine at 5500 is entered on the second line as we need to make a more explicit prompt than the general one.

Special Offers

Let me draw your attention to the two subroutines here. Users often complain of programs which do not allow them to make best use of their disc systems. But, how do you find out from a program how many discs a computer has? How do you check that an entered filename is acceptable? The boxes show my solutions.

You do not need to understand machine code to use this subroutine – just copy it if you wish to use it. The main routine uses a BIOS call, which sets the variable bf% to 0 for A disc only, and to 1 for A and B discs. The second subroutine (at 6050) is only called on a 2-drive machine. It checks whether in fact there is a disc in the B drive. If there is not, then the variable bf% is increased to 2. The PEEKing and POKEing at 64487 temporarily sets the CP/M error mode to ignore errors. This is done to avoid a request to put a disc in drive B if one is not found. BF stands for B Flag. It may be useful to know that POKE 64487,254 will produce the CP/M errors on the screen, but return to Basic rather than the CP/M command line prompt.

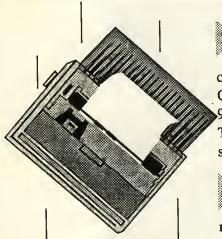
```
6000 h=HIMEM:v=h-12:MEMORY v-1:RESTORE 6010
6010 DATA 229,205,90,252,230,0,60,238,1,225,119,201
6020 FOR n=v TO h-1:READ a:POKE n,a:NEXT
6030 CALL v(bf%):IF bf% THEN GOSUB 6050
6040 MEMORY h:RETURN
6050 q=64487:p=PEEK(q):POKE q,255:f$=FIND$("b:*.*")
6060 IF f$="" THEN bf%=2
6070 POKE q,p:RETURN
```

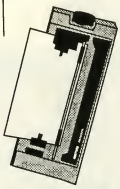
FIND$ will produce an error for most incorrect filenames which can be dealt with by an ON ERROR as shown. If the disc is a physical drive, then there will be an unseemly and user-unidentifiable whirring, so the trick is to use the M disc. A null filename does not produce an error in this case, so a separate check is made for this.

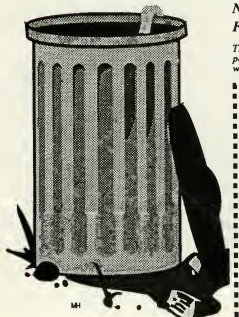
```
7000 INPUT"Enter your filename: ",f$
7010 ON ERROR GOTO 7050
7020 IF f$="" THEN 7060
7030 g$=FIND$("m:"+f$)
7040 ON ERROR GOTO 0:RETURN
7050 RESUME 7060
7060 PRINT"Unsuitable name. Try again."CHR$(7):GOTO 7000
```

UNHAPPY WITH YOUR PCW's PRINTER?

At last a high quality printer that's as flexible as LocoScript 2. With a 24 Pin Printer and the 24 Pin Printer Drivers Disc from Locomotive Software, you get really high quality printing of ALL LocoScript's characters, pitches etc – even on a PCW9512.







24 PIN PRINTERS ARE GOOD FOR 8000 OWNERS

With a PCW8256 or 8512 you can already print all of LocoScript's characters on the built-in matrix printer. With a 24 Pin Printer "High Quality" printing really will be High Quality! The built-in matrix has just 9 pins – a 24 pin printer not only has more pins, but they are closer together. This means that you get a better result. Most of these printers print in one sweep across the paper – which makes a 24 Pin Printer much faster as well.

24 PIN PRINTERS ARE GOOD FOR 9512 OWNERS TOO

The PCW9512's built-in printer gives good quality results but it is noisy and slow – and it can only produce a small range of characters. You cannot even mix upright and italic characters in the same document. A 24 Pin Printer and the 24 Pin Printer Drivers disc will give you the full range of characters (symbols, accents, Greek, even Cyrillic!), without sacrificing quality.

If you're thinking of getting a better printer, then how about a NEC P6 Plus. We think this is the best price/performance printer around and it's available from us at £549 + VAT. We'll also throw in a connecting cable and printer software FREE! Let us know if you've got an 8000 or a 9512 so we can send the right cable – and remember you'll need a CPS8256 Printer Interface if you have an 8256 or 8512. If your budget is tighter, then how about the NEC P2200 at £349 + VAT.

If you've already got a 24 pin printer (such as an Epson LQ series, NEC P2200, P6 Plus or P7 Plus..) just add the 24 Pin Printer Drivers disc. For £24.95 inc VAT you'll get more from your printer than ever before!

The 24 Pin Printer Drivers can be used with the Amstrad LQ printers. However, please note that performance is poor compared with other printers because of the way the Amstrad printers handle "downloaded characters" which are essential for the provision of the full range of LocoScript 2 characters.

Please send me the following products

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24 Pin Printer Drivers Disc*	£24.95	☐
NEC P6 Plus & Printer Drivers Disc*	£631.35	☐
NEC P2200 & Printer Drivers Disc*	£401.35	☐
CPS 8256 Printer Interface	£49.95	☐

FOR THE 9512

24 Pin Printer Drivers Disc	£24.95	☐
NEC P6 Plus & Printer Drivers Disc	£631.35	☐
NEC P2200 & Printer Drivers Disc	£401.35	☐

(* requires LocoScript 2)

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EXP. Date

Signature.....

Name.....

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.....

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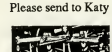
Please send to Katy Buchan at:



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Note: all prices include VAT and UK postage
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SHEETS TO THE WIND

A standard business tool missing from the PCW9512 is the sheet feeder. Amstrad corrects its oversight.

Few of those paid to produce multiple copies of letters, invoices or apologies have time to stand and feed letter-headed paper into a printer, which is the only possible reason why anyone ever put up with the vagaries of sheet feeders.

These are devices that attach to a printer and automatically feed in cut sheet paper for as many copies as the word processor requires. Unfortunately, they have earned a reputation for being just a shade cranky - if not downright hostile - so we approached this new one from Amstrad with little enthusiasm; we were only half wrong. The sheet feeder, revelling in the imaginative name of the ASF9512, comes with a thin manual written by Susan Vass of Amstrad and two new system discs. There is the latest version of LocoScript for the 9512, version 2.29 and the latest version of CP/M, version 2.9. The latter includes new versions of the PAPER, DAISY and MATRIX utilities, all of which will enable the sheet feeder and which can be used from your PROFILE.SUB file.

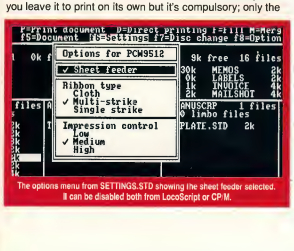
Attaching the sheet feeder is the easiest part; effectively, it simply sits on top of the standard daisywheel printer – and is knocked off as easily. Using it is not quite so straightforward.

Up to 30 sheets of paper can be stacked in the tray, so you won't be leaving it to its own devices overnight, but this is no bad thing. Sheet feeders traditionally only work while someone is in the room to watch them, so having a maximum of 30 letters that can go wrong is quite sensible - you can never lose too much of your work.

With the latest version of LocoScript, operation is actually very smooth and trouble free; the sheet feeder is the default print option in the SETTINGS.STD file and it works properly. Paper is fed through incrementally, always ends up in the right position and feeds smoothly from sheet to sheet. In several tests with quantities of paper from one to 30 in the tray there was never a hitch, all the letters printed in the correct position on the paper and it didn't snarl up once. Full marks to Locomotive for that one, we actually ended up trusting it.

Down side

Of necessity the sheet feeder sits on top of the printer, and meant that we couldn't close the lid on the acoustic hood that normally protects us from the trip hammer noise the daisywheel printer produces. This meant that not only can you leave it to print on its own but it's compulsory; only the deaf can work next to a daisy wheel in full flight.



The options menu from SETTINGS.STD showing the sheet feeder selected. It can be disabled both from LocoScript or CP/M.

The new ASF9512 sheet feeder from Amstrad fills a niche in the business end of the PCW market and works well.

ASF9512 Sheet Feeder ● £99+VAT ● Amstrad ● 0277 228888

Pluses	Minuses
▲ Multiple prints with letter heads	▼ Difficult to use from CP/M
▲ Instant LocoScript upgrades	▼ Won't fit in most acoustic hoods
▲ Reliable with LocoScript	▼ Can't use with A5 portrait

EASE OF USE	4	PERFORMANCE	3
RANGE OF FEATURES	4	DOCUMENTATION	3
VALUE VERDICT	4		

The only other real deficiency under LocoScript is due to the design of the hardware rather than the software. The paper guides, which have to be accurately positioned, won't go closer than 6¼", so no A5 paper in portrait orientation; a minor niggle since offices usually have A4 letter heads anyway, but a nuisance for clubs perhaps who may use smaller paper sizes.

Not so good on the CP/M side of things. In the half day available to test the ASF9512 we failed to get it working correctly or reliably. The problem is positioning the paper. The standard self-loading feature doesn't carry the paper far enough through when positioning the first sheet, and obviously no CP/M word processor has been designed to cope with it.

We tried it with Protext, but although it worked, after a fashion (and after we'd changed the default to continuous paper), it didn't work right. The form feed at the end of each copy feeds in another sheet but it never gets to the same position twice. Not only that, but using the same paper as before it relentlessly ended in paper jams. This appears to be because the print head doesn't move to the centre to guide the paper past the bail bar under CP/M.

Most word processors have the ability to send printer control codes and using these it ought to be possible to duplicate the action of LocoScript – but you'd have to have a good reason to bother when LocoScript is more than capable of the job. Once again LocoScript proves its strengths in complete control of the printing process. ■

WIRTH LEARNING

Steve Patient learns to parley Pascal (un petit soupcon) and tells it like it is.

Pascal is the computer language of choice among academics. This is so for three major reasons: its claimed ease of learning, its logical structure and because it was written by one of them. A consequence of this fact is that there are an awful lot of books available on using Pascal. It means also that just about every course on computing either includes Instruction in Pascal or assumes some previous knowledge of the language. Read on and find out why Pascal is so highly regarded.

He's done it again

Niklaus Wirth went on to design one of the best languages around for ease of programming, Modula 2. Unlike Pascal Modula 2 was written with Micro computers and ease of compilation in mind. In many ways it is a much more practical language though it hasn't really caught the programming publics imagination. Coming to a page near you soon.

Programming should be fun, unless you're getting paid for it of course and then it should be hard, mind-numbing work. But all too often a fun program in Basic can become hard graft, usually when it won't work and you can't figure out why. At that point there's nothing to do but try and follow through the logic of your program.

It's often only when you come to do this that you find that your program seems to be all over the place, jumping from here to there and back without rhyme or reason; you've written spaghetti.

Wirth decided that programmers needed a language that would encourage them to write in a modular form; in fact, force them to. Of course you can do this in any language. In Basic, this would entail writing programs using just a main loop and a series of subroutines (it can be done – see last month's Listings). Every subroutine should have only one entrance to it and one exit from it.

Programming using procedures like this means that programs are much easier to understand; the flow of logic within them is clearer. A program written by one Pascal programmer will look much like one written by another, and they should have little trouble following each others' code. In fact so verbose and explanatory is Pascal that even those who don't know the language are supposed to be able to figure out what's happening in a program. Of course you're far too intelligent to believe this for a moment.

The other claimed strength of Pascal is that it is strongly typed, which means that, for example, you can't compare a character variable with a number. Unfortunately, since this is something programmers often have to do, provision has to be made to get round it by providing functions that convert characters to numbers, just as in Basic. In fact strong typing tends to be something more beloved of theorists and those who write the documentation than of programmers.

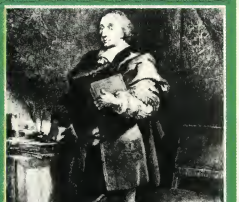
Historical perspective

In the beginning there was Algol 60, a language designed by Nicklaus Wirth and which never really took off. Commercially everyone was using Cobol and the scientific community used Fortran. Academics hated these languages because they hadn't written them and they didn't work the way they thought they should. Undaunted, Wirth and a few friends (Djikstra and Hoare) got together and in 1970 designed Pascal, embodying all the principles they'd advocated over the years.

Wirth named it after a man he admired, Blaise Pascal (1623-1662), an extremely able French mathematician who designed a mechanical calculator to help his father, a tax collector, in his work. Everyone carried right on using Cobol and Fortran.

However, the academics had the upper hand since they were in a position to insist that Pascal was taught as part of computer theory on all their courses, and so it slowly but certainly grew in popularity. With the advent of micro computers and amateur programmers, Pascal became very very popular – except in the business and scientific communities where people carried right on using Cobol and Fortran.

Doctor Niklaus Wirth (which is pronounced Veert, just to spoil all those bad puns) was, (and perhaps still is) head of the Computer Science Department at Eidgenossische Technische Hochschulein in Switzerland.



Blaise Pascal, famous French mathematician and nothing to do with the computer language of Pascal.

Edit, compile, crash

All Pascal implementations are compilers of one kind or another. Some compile directly to a COM file that you can use independently of the language system while others compile to an intermediate P code that needs the support of a run time program (which must be loaded first) thus combining the worst features of compiled and interpreted languages.

If there is one thing on which all programmers agree it is that the language they use is the best; for all sorts of reasons. So what makes Pascal programmers so keen? The main selling point has to be the highly structured nature of the language.

If you look at our example program, you'll see that the first thing in it is the name of the program. Every Pascal program has to have a name. The next thing is a list of the global constants and variables; these can be used by any procedure anywhere in the program. It is, of course, considered very good style to put them all at the beginning in any language.

The fundamental building block of Pascal is the block, which is a group of statements which must start with a beginning and finish with an end. Each block can have its own local variables. Each statement within the block (and almost everywhere else) must end in a semi-colon, which delimits the statements. This doesn't apply to the last statement within the block since there isn't another one, so you can miss out the last one. This kind of pedantry seems designed to confuse but most compilers won't object to a semi-colon after every statement.

Stringing along

After blocks come procedures, which can contain blocks, as you can see in our example. Each of these must have a unique name. At the head of each procedure you can define local variables which are only available to that procedure. Procedures can also have values or pointers to values passed to them, which are allocated to an internal variable and worked on. This leaves the original value intact, which can be very important if various different procedures need to access the same variables sequentially but get the same values.

Procedures can use various control structures to achieve their effects. There is the WHILE-WEND loop,

familiar to Basic programmers, but which doesn't need a wend; it acts on the block which follows it. There is a REPEAT-UNTIL construct, a FOR-TO loop which acts like a Basic FOR-NEXT loop, an IF-THEN-ELSE for decision-making as well as the case construct which will be less familiar to Basic programmers. As you can see from the example program, procedures can call themselves as well as contain other procedures.

For those familiar with Basic, the biggest shock will be the way in which Pascal handles strings; reluctantly. What you get is not a string but an array of characters. In fact it is usually a packed array, which means that it takes very little more space than you would expect. Of course you can read lines of text in using the READLN function but Pascal makes the whole process of interacting dynamically with your computer unnecessarily fraught.

Logically correct

Pascal knows when it has reached the last character in a line or a file because it has been designed to look at the next character before deciding. This means that it is really one character ahead all the time. This works well with a disc file, paper tape or a punched card input but not so well with a keyboard. You might want your program to print a message when you press Q to quit a process but Pascal won't act on it since it's buffering input one character ahead; you need to give it a dummy character first and let it throw that away.

The reasons for this are fairly sensible. When Pascal was written you couldn't do it anyway, you interacted in batch mode with a mainframe and waited until the following morning for the results. For this reason the interactive aspects of Pascal are poorly defined and very variable from one implementation to another. Bad luck.

The good side of this mess is that virtually all Pascals work much better than you'd suppose. Most companies have thrown away the original specification and provided extensive functions for input/output from the keyboard. Hisoft's Pascal80 goes so far as to allow you to bypass the language completely and go straight to the CP/M BDOS calls; a much better solution. File handling in standard Pascal is no more hideous than in any other computer language; it treats all input and output as to and from files, even the keyboard and console are treated as no more than the default input and output files.

Final thoughts

So, is Pascal all it's cracked up to be? Is it the ideal language for the beginner? No. In use Pascal feels very fussy, much more so than Basic. Everything has to be exactly right before it will compile, but having said that, once it does compile it will probably run the way you expect it to. For developing a large program it would be good since it does force you to work in an orderly manner, but then, if you were disciplined enough to build large programs it probably wouldn't matter what language you worked in.

Pascal lacks a certain sense of adventure, exactly what its designers intended. Assembler, for example, is exciting simply because of the risk of everything going wrong. Pascal is supposed to prevent things from going wrong. The amateur programmer, building programs as a hobby, might find it dull. Also, since even the simplest program takes a bit of setting up it isn't the ideal choice for 'quick and dirty' programs like file filters. Pascal is reliable, but lacks excitement. ■

Buyers' guide

There are several sources of Pascal. If you merely want to learn the language and already know your way around the PCW go for the public domain version; it's a complete implementation but you'll need an editor and an understanding of how things work. It's a rather old program that requires you to link bits together and so on.

The best current Pascal programming environment is provided by Hisoft's Pascal80, along with the fastest compile times, the smallest COM files and the fastest code. For serious work it's probably the best there is. PDQ Pascal will only work on 720k drives (see the review in issue 28) and is in all respects an absolute dog. The high price of ProPascal is a bit of a puzzle; it's good, but not that good. JRT Pascal is in the public domain on Sig/M 82, the documentation is on CP/MggNL 1082 (Dutch library but in English). Join the CP/M User Group UK and get it for under a fiver – it's very good.

Name	Supplier	Telephone	Price
Pascal/MT+	Grey Matters	0344 53499	£99
ProPascal	Grey Matters	0344 53499	£240
Pascal80	Hisoft	0525 718181	£49.50
PDQPascal	Pecan	0272 425012	£29.95

MAPLE CODES

This sample program is designed to take a string and print out all possible anagrams of it. Since this is a factorial function any string over five letters will produce a lot of text. Most of the program is procedures, the two lines in the block at the end actually constitute the program.

```
Program anagram (input, output);
var  In : packed array [1..10] of char;
 I : 1..10;
 len : 0..10;
procedure readline;
begin
 len :=0;
 i:=1;
     begin
     read(In[i]);
     while not eoln and (i < 10) do
          begin
               read(In[i]);
               len:=i;
               I:=i+1;
          end;
     end;
 In[i]:=' ';
 I:=1;
end;
procedure moveit (k:integer);
var i:1..10;
 procedure swap;
 var temp:char;
 begin
     temp:=In[i];
     In [i]:=In[k];
     In[k]:=temp;
 end; (* end of swap *)
begin (* moveit *)
 if k=1 (* if it does then we finish *)
 then
     writeln(In)
 else
     begin
          moveit(k-1); (*recursive call*)
          for i:=1 to k-1 do
               begin
                    swap;
                    moveit(k-1);
                    swap
               end;
     end;
end; (*moveit*)
begin
 readline;
 moveit(len)
end.(*full stop marks end of program *)
```

YOU'VE SPENT IT

David Frost looks at Money Manager PCW

MONEY MANAGER PCW

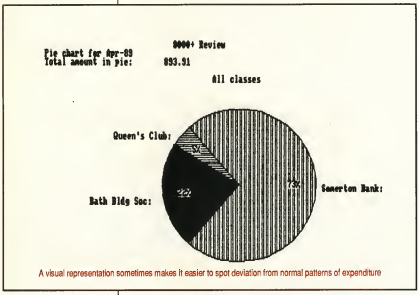
£49.95 ● Connect Software Ltd ● 01 743 9792

Money Manager PCW is the latest in the Money Manager series by Connect who claim software sales in excess of 20,000 units. It's aimed at private individuals, small businesses, clubs and other people who might find a larger accounting package too complex or expensive for their needs. It runs on all PCWs, but 9512 owners won't be able to print the graphics on the standard printer. Other printers, however, are supported. The comprehensive 60 page manual together with screen prompts makes the program easy to use; additionally there is free hot line support.

Each of Money Manager's files covers a twelve-month period with up to 500 entries per month.The program concentrates on income and expenditure which it categorises in three ways. Firstly, there is a choice of up to 20 accounts. These would usually include your bank, building society, credit cards, main suppliers, customers and perhaps cash. Businesses would need a cash account, but private individuals could find recording every penny pretty wearisome. Other headings to consider are debtors and creditors. Then there are up to 50 class codes which help categorise income and expenditure still further. For example class codes beginning with C might refer to your PCW with C1 being software, C2 hardware, and so on. The generic code C0 would cover all other computer transactions. Finally each transaction can be allocated a mark. You can define up to 50 of these and use them to subdivide the class codes. For example if you have a PC and a PCW you might use C to indicate transactions affecting the PC and W for those affecting the PCW.

All for one

A macro is a string of key strokes which can be executed by pressing just two keys. Many modern programs have the facility to do this. You simply tell the software to record all of the following key presses and save them for later use. In Money Manager they save a lot of time where repetitive entries have to be made and are easily defined from within the program.



A visual representation sometimes makes it easier to spot deviation from normal patterns of expenditure

Mark well

Defining account, class and mark codes needs care but gives great flexibility in analysing income and expenditure. Analysis covers any period from one to twelve months and can be further subdivided by account, class and mark in any combination. Taking the example in the previous paragraph you could ask for an analysis showing all bank transactions relating to PCW software in any given period.

Another useful facility is the option of displaying information in the form of a bar chart or pie chart. A visual representation often makes it easier to spot deviations from normal expenditure patterns.

If you are registered for VAT this can be included and a VAT statement produced. Various ways of presenting balances and account statistics are available and reconciliation is possible. Every so often one 'loses' a vital entry and to help find it there is a string search facility. Although primarily designed for tracking expenditure, it is possible to use the program for the production of budgets as well.

Even without the use of macros (eight macros can be defined and stored) data entry and analysis is easy with clear screen menus and prompts, and a help facility if you get lost. Another useful facility is a pop- up calculator; its answers can be inserted directly in the file.

Business sense

Any purpose-designed accounts system has to be measured not only against its fellows, but against a spreadsheet like Supercalc 2. The spreadsheet wins on cost and versatility, it is not limited to accounting calculations. But Money Manager does things which Supercalc finds difficult and in some cases – graphics – impossible. Spreadsheets take time to set up whereas Money Manager can be used with the minimum of preparation.

Whether you need a program like this for domestic accounts is a matter of taste, but anyone running a small business or acting as a club treasurer will find Money Manager invaluable. Its range of codes should satisfy most requirements and the only limitation is the maximum 500 entries per month. However, this is around 20 for every working day and is unlikely to be a problem.

The main drawbacks are the ease with which entries can be altered or erased, an aspect which accountants may not be keen on, and the relatively restricted scope of the program. Before changing your accounting system it would be wise to discuss the matter with your accountant. Overall this is a capable program, very easy to learn and use, and one which will satisfy many people's accounting requirements. ■

Pluses

- ▲ Needs little computer or accounting expertise
- ▲ Comprehensive guidance, good manual and screen menu
- ▲ Easy to use

Minuses

- ▼ Too limited for the bigger business
- ▼ Over featured for domestic use

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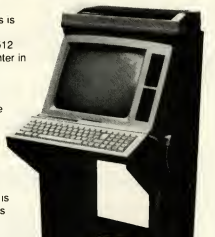

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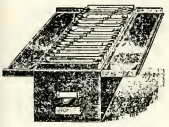

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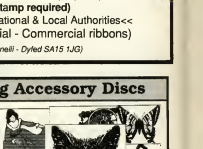

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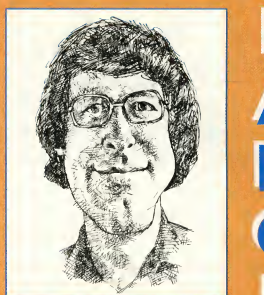

LANGFORD

A page in the company of author and PCW pundit David Langford

I've been groaning my way through more unpublishable typescripts, and suspect it's time for some tub-thumping fundamentalism. What passes for punctuation in these benighted times is quite frequently enraging. Sage advice and maddening pedantry follow herewith.

Apostrophes. If you write "it's" as a possessive pronoun, editors will call you illiterate. (Its only correct use is as a contraction of "it is".) Beware of Grocer's English, where the apostrophe is used for all plurals: "tomato's" instead of "tomatoes" and so on. Many people get confused by possessive plurals and words ending in S: the pips of several tomatoes are "the tomatoes' pips", but Steve Whatsisname is "*8000 Plus*'s editor", not "*8000 Plus*' editor".

Brackets. I use too many... do as I say, not as I do. When writing English as opposed to mathematics, resist the temptation to flaunt the PCW's square, curly or angle brackets. (However, if you ask nicely I'll permit you to use square brackets to distinguish a parenthesis within a parenthesis [like this].)

Colons. The colon is tricky because it has two uses: introducing a list (as here) for example, and, more rarely, linking two sentences to point up their contrast. "I am a columnist: you are not." Business English tends to put a superfluous dash after a colon which introduces a list — but let's stick to English English. ("Who is this guy Colin Dash?" said my American pal.) Many Americans capitalize the word following a colon. This is incorrect, even according to many other Americans, but is spreading over here thanks to cheapskate publishers who photo-offset from US books.

Commas. These are most often misused as an illiterate means of stringing sentences together, for example this "sentence" should be broken into two with a full stop or given another punctuation mark instead of its comma. (SF author Harry Harrison is a persistent offender in this respect.) Warning to 8256/8512 owners: as your ribbon fades, keep an eye on the tails of printed-out commas. They're the first things to vanish when greyish print is xeroxed, and prose doesn't half look illiterate when all the commas turn into full stops.

Dashes. Thank goodness, we've escaped the elegant anonymity of past centuries' dash-spattered novels: "In the year 18— a young man might have been observed purchasing a copy of *8000 P*— in the town of B—. He glanced within and ejaculated, 'D—!'" The dash is a more frenetic and breathless version of the colon, which can also mark parenthetical phrases like ersatz brackets or commas. How to type it? Space-hyphen-space is common, but sometimes this slips into print as a mere hyphenation. Space-hyphen-hyphen-space makes your intention clearer. Some writers prefer double or even triple hyphens with no spacing at all.

Ellipses. See full stops....

Exclamation marks. Use them very sparingly!! There's no grammatical rule against slapping exclamation marks on every sentence you think is dramatic, clever or witty. However, this is the literary equivalent of laughing loudly at your own jokes while digging violently at the listener's ribs.

Full stops. You must have noticed them, those little dots at the ends of sentences. Put three together and you have an ellipsis... like that.

Many publishers like you to put a space before three dots. When ending a sentence with an ellipsis, pedantic writers use four dots.... Don't overdo this: it's a way of nudging the reader to hint that Things Are Being Left Unsaid, and (as with exclamation marks) people resent too much nudging.

Inverted commas. See "quotation marks".

Parentheses. (See brackets.)

Question marks. Surprisingly many writers fail to notice that they've just written a rhetorical question, and mistakenly end it with a full stop. Or do they assume that because such a question (like this one) doesn't actually expect an answer, it's not a real question?

Quotation marks. Use double quotes as mentioned last issue, unless your publisher begs you to follow a different house style. Quotations within quotations get single quotes; quotations within quotations are probably a mistake, but it's back to double quotes again. (And so on.) Punctuation goes outside the quotes for isolated phrases or words, like "this", but inside for speeches: "Do it this way," said Langford. (American usage differs.) In Grocer's English, quotation marks are used merely for emphasis. Discerning readers can thus enjoy placards saying things like *"Fresh" Lettuce*, which actually conveys that the word "fresh" should be pronounced in tones of extreme sarcasm.

Semicolons. I am addicted to semicolons; readers may have noticed this terrible habit. Use them to link vaguely related sentences when complete separation with a full stop seems a bit too sundering. The decision tends to be a matter of personal style rather than grammatical compulsion. Downmarket newspapers will probably convert all your semicolons to full stops anyway, and then start a new paragraph after each full stop. This is supposed to make for easier reading — just as a meal is so much easier to eat when each potato is served as a separate course.

Spaces. The space is the most important mark of all, and the most abused. Of late I've seen spaces put immediately *before* full stops, commas, question and exclamation marks, semicolons, colons and right-hand brackets — as well as immediately *after* left-hand brackets. All these disgusting practices must stop at once. Nor will you be forgiven should you sleazily omit the space after the full stop, comma, question mark and so on. Some typing purists demand two or even three spaces following each full stop, but this remains wholly optional.

Speaking of space, I've used up all mine. For further reading, consult G.V.Carey's *Mind the Stop* or Kenneth Tynan's substantially funnier essay on punctuation in *Tynan Right and Left*. ■

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LISTINGS

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FIND IT

by A R Tutcher

To state the obvious; summer is with us. At such times as these the PCW refrains from its normal business-like activities. It's your chance to teach it to entertain. A R Tutcher, or ART as he would prefer to be known, sent us a vast number of games in response to our plea. From these, the one which we finally settled on concerns a guessing game and boxes. The reason we chose it had more to do with length than anything else as all of Art's endeavours were quite excellent, though most were a bit too long.

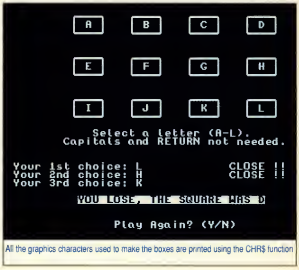
FINDER is a simple game in which the computer selects one of twelve boxes. The player, you, then has three chances to guess which of the boxes was the one selected, a la Merchant of Venice. To ensure that the game is not totally dependent on luck, it is also programmed to inform you whether or not you have come anywhere near to the hidden treasure. If your choice is in the same row or column as the computer's you are told that you are CLOSE!

Although the game itself is rather simple, the program does make use of some very interesting Basic functions. For example we have the OPTION BASE function; this relates to arrays and array variables. Arrays can start from either 0 or 1. The OPTION BASE command defines the starting number in all arrays for the program. As with many OPTION commands only one OPTION BASE command can be made in any one program.

FINDER also makes use of the very underrated user defined functions which lie within Mallard Basic. A number of these are utilised throughout the program: FNat$ is probably the best known of the bunch, although, as you can see from line 160 actually defining the function takes some time and space. But once done the uses for it are legion. Not only can you place text where you require on screen but you can also place the graphics which make the squares representing the boxes in Finder.

The two variables which will probably be of most interest are: **pick** which appears for the first time in line 220; this contains the choice made by the computer, and **try** which appears for the first time in line 260; this is used in connection with the INKEY$ function and represents the number of attempts made by the player.

The obvious place to cheat in the game is line 240 where the FOR...NEXT loop gives the number of attempts possible. However the real interest might come in expanding the grid or even changing sides so that the player chooses the square and the PCW does the guessing. This type of random choice and search game does have plenty of potential so why not see if you can expand on it and send us your efforts.



All the graphics characters used to make the boxes are printed using the CHR$ function

```
 10 REM "Find The Square"                                          0B16
 20 REM Written by ART                                             0AF0
 30 a$=STRING$(3,CHR$(154)):esc$=CHR$(27)                          0F8D
 40 over$=CHR$(150)+a$+CHR$(156):jam$=CHR$(149)+"    "+CHR$(149)   14B1
 50 OPTION BASE 1:under$=CHR$(147)+a$+CHR$(153)                    1215
 60 DEF FNat$(x,y)=esc$+"Y"+CHR$(32+y)+CHR$(32+x)                  1321
 70 cls$=esc$+"E"+esc$+"H"                                         085E
 80 DEF FNtidy(b$)=(85-LEN(b$))\2:lite$=esc$+"p"                   137B
 90 dark$=esc$+"q":RESTORE 440                                     0D94
```

As usual the groundwork is laid for the program at the beginning with the user-defined function to locate the cursor featured in line 60.

```
100 PRINT cls$;esc$+"f"                                            09A3
110 :FOR n=5 TO 6:READ b$:PRINT FNat$(FNtidy(b$),n)b$:NEXT         19A5
120 FOR n=9 TO 12:READ b$:PRINT FNat$(FNtidy(b$),n)b$:NEXT         1990
130 READ b$:PRINT FNat$(FNtidy(b$),20)b$                           11F9
140 k$="":WHILE k$="" OR k$<>" ":r=RND:k$=INKEY$:WEND              16B6
150 game=89:WHILE game=89                                          0C2E
160 RESTORE 500:PRINT cls$:chr=65:FOR y=4 TO 14 STEP 5             1955
170 FOR x=28 TO 52 STEP 8                                          0ABE
```

The opening messages which will be relayed to the user are stored in DATA statements in lines 440-510.

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Access VISA

```
180 PRINT FNat$(x,y)over$;FNat$(x,y+1)jam$;                    1587
190 PRINT FNat$(x,y+2)under$                                   0CA6
200 PRINT FNat$(x+2,y+1)CHR$(chr):chr=chr+1                    137F
210 NEXT:NEXT:RANDOMIZE r                                      0E2F
220 pick=INT(RND*12)+1:FOR n=18 TO 19                          1024
230 READ b$:PRINT FNat$(FNtidy(b$),n)b$:NEXT                   16BE
240 win=0:FOR n=1 TO 3:READ b$:PRINT FNat$(20,n+21)b$          1807
250 k$="":WHILE k$=""OR k$<"A" OR k$>"L":r=RND                 11FF
260 k$=UPPER$(INKEY$):WEND:try=ASC(k$)-64                      11CC
```

Line 220 has the PCW picking a card, or rather a box. The rest of this section waits for the key presses of the player.

```
270 PRINT FNat$(20+LEN(b$),n+21)UPPER$(k$)                     12B8
280 IF try=pick THEN n=4:win=1                                 0ECD
290 FOR multi=1 TO 9 STEP 4:near=0                             10AF
300 FOR row=0 TO 3:tot=row+multi                               120D
310 near=near+ABS(try=tot)+ABS(pick=tot)                       153C
320 NEXT:GOSUB 420:NEXT:near=0                                 10FA
330 FOR col=4 TO 8 STEP 4                                      0B49
340 near=near+ABS((pick+col=try)*2)+ABS((pick-col=try)*2):NEXT  1B7B
350 GOSUB 420:NEXT:b$="YOU LOSE, THE SQUARE WAS "+CHR$(pick+64) 1E54
360 IF win=1 THEN b$="!! YOU WIN !!"                           0CF9
370 PRINT FNat$(FNtidy(b$),26)lite$;b$;dark$                   1586
```

The program assesses whether or not you have had any near misses. This section also decides whether or not you won or lost.

```
380 b$="Play Again? (Y/N)":PRINT FNat$(FNtidy(b$),29)b$        18A9
390 k$="":WHILE k$="" OR (k$<>"Y" AND k$<>"N")                 0F88
400 k$=UPPER$(INKEY$):WEND:game=ASC(k$):WEND                   1470
410 PRINT cls$;esc$+"e":END                                    0B54
420 IF near=2 AND win=0 THEN PRINT FNat$(50,n+21)"CLOSE !!"    19D0
430 RETURN                                                     0508
440 DATA "You must find the computer's choice of box in three" 2073
```

Would you like to play again? Silly question, of course you would. Yet again the redoubtable INKEY$ function shows its worth.

```
450 DATA "tries or less. Failure may result in the doom for all!"  2131
460 DATA "Each box has a letter (A-L) allocated to it."            1955
470 DATA "If the box you pick is in the same file or column as the box"  23D2
480 DATA "selected by the computer,'Close' is displayed otherwise the"  25C7
490 DATA "next try is indicated","PRESS SPACE-BAR TO CONTINUE"     2061
500 DATA "Select a letter (A-L).","Capitals and RETURN not needed." 2071
510 DATA "Your 1st choice: ","Your 2nd choice: ","Your 3rd choice: "  1E8F
```

An interesting use of DATA to convey the messages. Nice and tidy.

List Drive

Once again the call goes out from Listings Plus; send us more programs we cry – and send them now otherwise we will have to put our favourites in and pay ourselves for them (not really, honestly).

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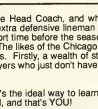

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YIBBLE

by Joel Rowbottom

Now then Yibble, yes. Nice name, strange little program. One of the main points in its favour was the fact that it is short and clearly put together. The reason we harp on about this is that it makes everyone else's life so much easier when typing in listings. Imagine the writing of a computer program being similar to writing music. A symphony written with separate movements in clearly defined areas will be easier to play (and probably better on the ear) than a stream of consciousness opus. When it comes to improving or debugging, having a clearly laid out program speeds up the process and cuts down on the late nights.

The program itself is fun. All it asks from you is that you provide a short message which it then holds as the variable a$. It is better to keep the message to a maximum of 40 characters (including spaces) otherwise Yibble grinds to a halt. The program takes this message from the user and proceeds to bounce it around the PCW screen with wild abandon.

What's the point? Well very little really. One use might be to have Yibble running on the screen of the PCW during those periods when you are not using it (a static image eventually gets burned into the screen).

Apple Macintosh owners spend large amounts of money on programs which keep a moving image on the screens of their machines. The astute PCW owner can have one for free and can yibble away for as long as he or she likes.

As with Finder, the idea behind Yibble is simple. But it is these simple ideas which can be worked on to produce greater things. Another comparison to be made between the two programs is in the use of user-defined functions to position images on the screen.

Finder's use of user-defined functions are echoed by Yibble with the variable move$ in combination with CHR$(32) as seen in lines 200, 210, 220, 250 and 260. Using Basic in this way enables Yibble to seemingly bounce text or graphics around the screen.

Good use is also made of the STRING$ and SPACE$ commands in lines 210, 230 and 250. Using these instead of something like "PRINT "_____", will save a great deal of space and some program time.

Both of this month's programs have been short and to the point leaving much to the imagination and inventiveness of the rest of our readers. If you think that you can produce better (but not bigger please) programs then send them in (see List Drive for the address). Meanwhile have fun and Yibble.

How to type in a listing

The first thing to do is get Basic up and running. To achieve this you will first need to load CP/M (side two of your copy of the system discs). Once you have done this type BASIC.COM at the A> prompt.

You will know when you have Basic running because the A> prompt disappears to be replaced with Ok. the Basic prompt.

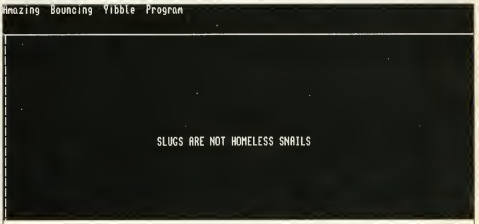
Now all you have to do is type the listing in line by line ignoring the four figure (hexadecimal) numbers at the end of each line. These are check digits which relate to the Checksum program printed in issue 26 (to appear again soon).

Don't press [RETURN] as soon as you have finished a line. Instead go back over the line and check for typing errors which will almost always occur. Once you are happy that the line is correct you can move on to the next one. When you have finished typing the program you must save it. To do this type Save"FIND (or whatever name you prefer). There is no need to bother with the .bas suffix as the PCW assumes this.

If you wish to save the program in Ascii form, so that you can examine it in LocoScript or your favourite word processor, you should type Save"FIND.BAS"a.

To see what you have done you can type LIST at any time which will print the program on the screen. If you want a copy from the printer you must type LLIST. Give the listing another look over to make sure everything is alright. If it looks good the time has come to type RUN.

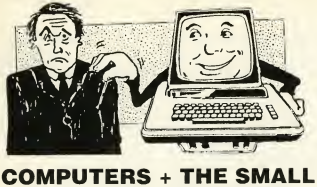
If the program runs properly first time you can count yourself very lucky indeed. The chances are that an error message such as Syntax Error in Line 123 (or some such line) will occur. To deal with this problem merely type EDIT 123 and the line will come up on the screen. Check it against the magazine version and make any corrections using the [DEL] and cursor keys. Once the alterations have been made you must save the program again. Finally if you are in doubt about how to proceed you should consult the Basic manual.



Bouncing text programs for those hot summer nights with the PCW.

```
10 REM Joel Rowbottom                                    0BBF
20 REM * Yibble on the Amstrad version 1 *               138F
30 esc$=CHR$(27)                                         0565
40 clear$=esc$+"E"                                       071D
50 move$=esc$+"Y"                                        0747
60 home$=esc$+"H"                                        06DD
70 cls$=clear$+home$                                     08E9
80 PRINT cls$                                            0630
```

The Escape sequences are defined in good order. The screen is cleared and we're off to do a spot of yibbling.



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```
 90 PRINT"*********************************"                    09AE
100 PRINT"**                               **"                   0547
110 PRINT"**     YIBBLE on the AMSTRAD     **"                   11FE
120 PRINT"**                               **"                   054D
130 PRINT"*********************************"                    09B0
140 PRINT'                                                       0484
```

Welcome to the game. A good straightforward set of PRINT commands get things underway.

```
150 x=5:y=5:INPUT"Enter a number... ";a:INPUT"Enter another... ";b   20EE
160 IF a>5 OR a<1 OR b>5 OR b<1 THEN PRINT CHR$(7):GOTO 150          18A2
170 PRINT'                                                           048D
180 INPUT"Message... ";a$                                            0AA9
190 PRINT cls$                                                       06AE
200 PRINT move$;CHR$(32);CHR$(32);"Amazing  Bouncing  Yibble  Program"   205E
210 PRINT move$;CHR$(32+1);CHR$(32);STRING$(90,"_");                 1524
220 FOR z=2 TO 27:PRINT move$;CHR$(z+32);CHR$(32)                    151F
230 PRINT "|";SPACE$(88); "|"                                        0CAB
240 NEXT                                                             0420
```

The numbers you should add when asked must be less than 5. These are used in the screen control in lines 280-320.

```
250 PRINT move$;CHR$(32+28);CHR$(32);STRING$(90,"~");                1722
260 PRINT move$;CHR$(y+32);CHR$(x+32);a$                             113D
270 oldx=x+32:oldy=y+32                                              0AA1
280 x=x+a:y=y+b                                                      07CF
290 IF x>(88-(LEN(a$))) THEN a=a*-1                                  0C9D
300 IF x<2 THEN a=a*-1                                               0905
310 IF y>27 THEN b=b*-1                                              09A9
320 IF y<4 THEN b=b*-1                                               091F
330 PRINT move$;CHR$(oldy);CHR$(oldx);SPACE$(LEN(a$))                1A53
340 GOTO 260                                                         04C0
```

The bouncing begins. Your message is hurtled around the screen.The only way to stop is press [STOP].

THE LEARNING CURVE

A small corner of Listings which will be be forever leisurely. This section of the 'technical' area of 8000 Plus is given over to those of our readers who wish to take their first dip into the programming pool.

We welcome any questions you might have, the answers will be of help to you and many others. We also look forward to receiving illustrations of Basic functions, commands or routines in the form of five line programs. We won't pay for these but you might have the pleasure of receiving a printed "Better Than the Manual" award and a mention in the magazine.

This month we will deal with the WHILE....WEND loop. This is one of the old Basic family retainers, reliable and a strong ally to have. What WHILE...WEND actually does is to provide an area within a program where a command or number of commands are carried out repetitively. The commands will continue WHILE a condition or group of conditions remain true. As soon as the condition(s) stop being true the loop will END or rather (w)END. The W which is added to the word END distinguishes it from the END which aborts the program as a whole. WEND will merely exit the loop and not the program. Here is a short program to illustrate this:

```
10 letter$ = "A"
20 WHILE letter$ = "A"
30 PRINT "Hello world, how are you? ";
40 new$ = INKEY$
50 IF new$ <> "" THEN letter$ = new$
60 WEND
```

We can now break this down line by line:

Line 10: The condition required by the loop is that the variable letter$ should be the letter A so we set this up outside the loop.

Line 20: The conditions for a While loop are checked when it is entered. If letter$ isn't A at the beginning, the loop will be skipped. Try changing line 10 to make letter$ something else and see what happens.

Line 30: Any commands inside the WHILE – WEND loop are now carried out. Add a few print statements, or a counting loop to check this out (we might be lying).

Line 40: To save the loop from continuing to eternity you need some way to alter the condition being checked. In this example we use INKEY$ to get any key presses that you've entered at the keyboard.

Line 50: If there is a key press then letter$ becomes the new character. This doesn't immediately end the loop. To show this put something in between line 50 and 60 (another PRINT perhaps). This will still be carried out even if letter$ has been changed.

Line 60: When the WEND is reached the loop jumps back to the beginning (line 20) where the WHILE will once again check to see if the condition is still true. If it is then the loop runs through again.

As you can imagine, WHILE...WEND loops can get more involved than this. For example they can be nested (loops within loops). Also, a WHILE can test for more than one condition. You might like to try adding the following lines:

```
15 a = 1
20 WHILE letter$ = "A" AND a < 10
25 a = a + 1
```

Now the loop will only run 9 times (check it out) even if you don't stop the loop first by pressing a key to change letter$ (remember, we are performing two checks now).

That's a very simple sketch of the WHILE...WEND loop. Try some others and see what happens. Next month we will deal with the ubiquitous IF..THEN..ELSE.

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TIP OFFS

Tips Questions

Topical tips for the temporarily trapped tapped out by tired 8000 Plus tyros

As you lay on the beach puzzling out those PCW problems (how to get the sand out of your disc drives), why LocoScript won't behave the way your think it should or just letting Basic bother you, throw away those romance novels and do a bit of holiday reading right here. Sometimes we can answer questions you haven't even asked yet.

And don't forget, you can actually earn a little money from the tips you send in. Up to thirty pounds for the best tips to come our way. Don't delay, send yours to Tipoffs, 4 Queen St. Bath, BA1 1EJ. This month's winners are: Kai Arste, for his method of using special LocoScript characters from Protext and Mr B Naylor for his guide to direct printing with LocoScript 2.

Groups action

Geoffrey Childs uses a poke to change user groups in Basic, but Mallard has built in commands to do this. If all data, indices, and files are going to the same destination set the default status at the beginning of a program using OPTION FILES "nG" where n is the user number and G is the intended drive.

If you need files to go to different places then simply specify the destination with the file name, for instance:

```
10 OPEN "o",1,"13M:testfile.g13"
20 For n=asc("0") to asc("Y")
30   test$=chr$(n)+chr$(n+1)
40   print #1 test$
50 next:close 1
```

Type this in and run it (from group 0 of course) and then exit Basic and type:

```
use 13ldir m:!use 0
```

at the A prompt. You should see just the file testfile.g13 in group 13 of the M drive. Now try this:

```
10 open "I",1,"13M:testfile.g13"
20 while not eof(1)
40   input #1,a$:print a$
50 wend:close 1
```

As you can see Mallard is far from reluctant to flit from user group to user group.

Robert Milne
Twickenham
Middlesex

Numbers up

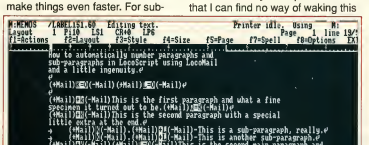
Few things are more annoying than having to retype a document with numbered paragraphs after someone has added their comments and altered things. However, anyone with LocoMail can automate the numbering of both paragraphs and clauses.

At the beginning of the document insert the line:
(+Mail)K=0(-Mail)(+Mail)L=0(-Mail)
this will set all the counters you're going to use to zero. Then, at the beginning of each paragraph, insert:
(+Mail)+K(-Mail)
instead of a paragraph number. This tells LocoMail to add one to the value of K and then print it. The insert can be stored as a phrase to make things even faster. For sub-paragraphs the line:
(+Mail)K(-Mail)(+Mail)+L(-Mail)
serves the same function, keeping the value of K but adding one to the value of L each time it is used. Don't forget to set L back to zero for the next main paragraph.

To use this system just finish editing as normal but Fill before actually printing. LocoMail will then correctly number all your paragraphs and sub-paragraphs.

This system can also be used for cross references within a document. If amendments have altered references these normally have to be searched out and altered afterward, but LocoMail can do it for you. You need a new variable, Q. At the end of the paragraph you wish to refer back to insert:
(+Mail)Q=K(-Mail). This causes LocoMail to store the current value of K in Q without printing it. Then, instead of inserting a particular paragraph number later on insert:
(+Mail)Q(-Mail)
which will print a reference to that paragraph. For references to sub-paragraphs use the insert:
(+Mail)V=K&".."&L(-Mail)
and now the insert:
(+Mail)V(-Mail)
will print out the paragraph and sub-paragraph correctly. You need to use a different initial letter for each of the references you make and you can only reference paragraphs that have gone before. There is no way to make a forward reference.

James Atherton
Bolton



Mastering a few LocoMail commands can save hours of retyping with numbered paragraphs.

PAR-fectly simple

From your recent review of simple printers I purchased a Star LC–10. After some man-hours, including remembering your reader's tip about cleaning the socket connections with an ink-rubber, it now works – more or less – in LocoScript 2. (The use of an escape code in LocoScript to get the very large size font escapes me).

However my main problem is that I can find no way of waking this printer from from a deep sleep to print SuperCalc 2.

N O Clark
Par
Cornwall

8000PLUS The editor's LC-10 prints out SuperCalc files with no problem. You don't say whether you have an 8000 or 9000 type machine. If it's an 8000 have you used DEVICE.COM to redirect printer output to the interface? DEVICE LST:=CEN.

If you're using a 9512 it should be DEVICE LST:=PAR for the built in centronics interface. Use the DEVICE program line from your PROFILE.SUB so that you can forget all about it.

Documented

I have just bought a PCW9512 and am using LocoScript 2 as the word processing package. I am having a few problems getting the printer (PCW9512 Daisy-Wheel) to print on A5 paper. The printer menu has a tick by the A5 and so does the document menu but the only way I can get it to print at the correct size is by altering the margins on the document. Could you tell me if this is the correct way of printing on A5 or should the program set the margins automatically? I would be very grateful if you could help me.

I would also be grateful if you could advise me of a statistics package that would work on my machine.

Sonja Garret
Malpas
Cheshire

*8000 PLUS The best way is to make up a standard document format containing the layouts you plan to use in your letters. Create a new document and use the [f1] menu. Select **Document setup** and you'll be dropped into a screen from which you can specify the type of paper the document will be printed on as well as the layouts for your A5 documents.*

You can now edit a layout to give you the margins you need (among a whole host of other things). If this layout were Layout 0 (for example) then pressing [+]LT0 will insert the layout code at the beginning of your document. Alternatively, set a document up the way you want it (change the margins and so on). You can save either of the resulting documents as a TEMPLATE.STD for future use.

Of course, LocoScript won't stop you printing any document on any size of paper – if you really want to.

As for statistics, contact SC Coleman for Amstat: 33 Leicester Road Ashby-de-la-zouch, Leicestershire, LE6 5DA

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Photocall

Many people have wondered if it is possible to print labels narrow enough to stick onto 35mm photographic transparency mounts. There is a way of doing this using labels 15/16th inches wide.

The best approach is to create a paper type specifically for this purpose from the [f6] menu. The new paper type will have a height of six, a left offset of zero, top gap zero and a bottom gap of two.

You now need to create a document as normal. It will have a line pitch of six but use a line spacing of a half, a character pitch of 15 and it will all be in superscript.

The final requirement is to edit the Document set up from [f1]. Use [f5] – for page – and select Page layout. You need a top gap of zero, a header zone of zero, page body of four, a footer zone of zero, a bottom gap of two and a page length of six.

This all gives enough space for three lines of address including a postcode, put in a carriage return and then up to four lines of information about the slide. Cut the printed label at the carriage return line and the two halves will fit the slide mount.

For those using LocoMail this can be extended and a reference number included on each label. Use the following method:

(+Mail)! Reference_no =?#;Please enter first reference number (-Mail)

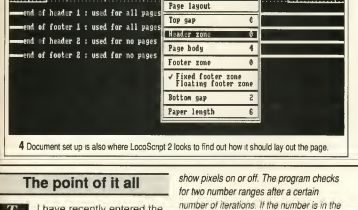
to get the first reference number and then on the last line of the label add the number with the line:

Ref. no: (+Mail) Reference_no (-Mail)

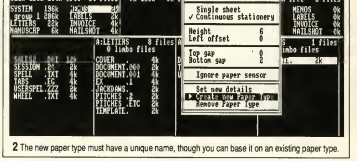
The name and address can be copied using [COPY] and [PASTE]. To use the LocoMail version select Fill rather than edit, enter the first reference number and all the rest of the entries will be numbered in sequence. You will eventually get a menu offering to let you Edit document, select this and fill in the details you require. The final result is time saved and far neater work.

D G Farquhar
Glasgow

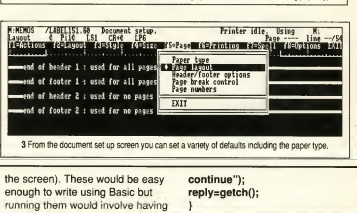
1 Paper types are stored as part of your SETTINGS.STD so the place to start is the [f6] menu.



4 Document set up is also where LocoScript 2 looks to find out how it should lay out the page.



2 The new paper type must have a unique name, though you can base it on an existing paper type.



3 From the document set up screen you can set a variety of defaults including the paper type.

The point of it all

I have recently entered the Mandlebrot plot program and I set about understanding how it worked. I understand all of the maths involved, but the following lines seems to cause the program to plot points which are not based on the mathematical set as explained in the text.

270 IF i%>t% THEN k=0 ELSE k=i%MOD(3)+1
280 IF k=1 or k=3 THEN CALL PLOT (x%, y%, f%)
290 IF k=3 THEN x1%=x%+1 : CALL PLOT (x1%, y%, f%)

Secondly can you tell me what the SIC command on the Locoscript2 [+] menu does? If selected it displays (SiC) but it does not cause anything to be printed.

Neil Sleighholm
Truro
Cornwall

8000 PLUS *You will have noticed that the pictures are two tone, yet the PCW can only show pixels on or off. The program checks for two number ranges after a certain number of iterations. If the number is in the first range then a single pixel is plotted and one is skipped. The second range produces two pixels plotted one after another (x1=x+1). In line 280 IF K=1 OR K=3 plot a point, but then in line 290 only plot a point if K=3.*

The (SiC) command tells LocoSpell that you've spelt the word before it the way you wanted to so no moaning about it later.

Utility not supplied

Are you tired of watching CP/M utilities scrolling messages down the screen when your PCW starts up with PROFILE.SUB? Even more irritating is when it continues to scroll them even though they're your messages which you'd prefer to leave on the screen for someone to read.

What is needed are two extra utilities, a pause (so that messages can be read) and a CLS (to clear the screen). These would be easy enough to write using Basic but running them would involve having Basic on your start up disc, and would certainly slow things down. A better solution is to write them in a compiled language to produce stand alone programs. I used Small C (from the public domain), though you could use a commercial Pascal or C. Small C is good for this kind of thing as it can produce very small files (only 256 bytes for these two).

The first program, PAUSE, is to stop things from happening until the user presses a key, any key. This allows you to put a message up on the screen asking them to insert another disc, or simply giving instructions as to what to do when a program has loaded.

```
/*pause*/
main()
{
int reply;
puts("press any key to continue");
reply=getch();
}
```

The second program clears the screen by printing the clear screen escape sequence to it.

```
/*clear screen*/
main()
{
putch(27);
putch('H');
putch(27);
putch('E');
}
```

To further aid you in keeping your environment tidy try redirecting screen output to the NULL device (this effectively just throws the screen output away). Use the line:

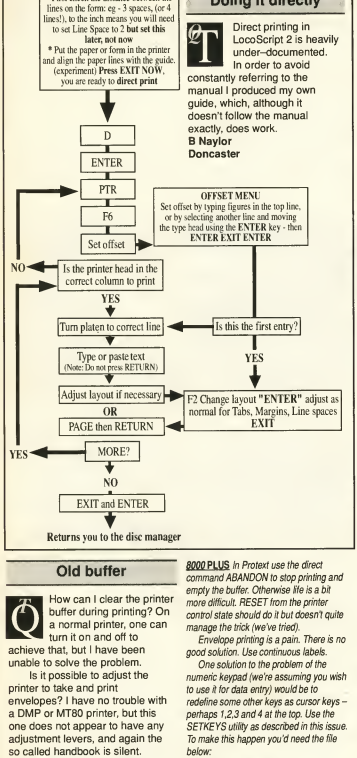
DEVICE conout:=null

to get rid of screen clutter and

DEVICE conout:=crt

to get it back again.

B Priestly
Slough



Doing it directly

Direct printing in LocoScript 2 is heavily under–documented. In order to avoid constantly referring to the manual I produced my own guide, which, although it doesn't follow the manual exactly, does work.

B Naylor
Doncaster

Old buffer

How can I clear the printer buffer during printing? On a normal printer, one can turn it on and off to achieve that, but I have been unable to solve the problem.

Is it possible to adjust the printer to take and print envelopes? I have no trouble with a DMP or MT80 printer, but this one does not appear to have any adjustment levers, and again the so called handbook is silent.

Is there any way round the numeric pad being overlaid by the direction arrows? This makes life very difficult in a complex spreadsheet operation, which doesn't happen on the PCW's companion CPC 6128 computer.

These seem rather silly questions, but the printer buffer really gets me wound up, as it fouls up Supercalc and Protext most effectively.

D G Rule
Wokingham

8000 PLUS *In Protext use the direct command ABANDON to stop printing and empty the buffer. Otherwise life is a bit more difficult. RESET from the printer control state should do it but doesn't quite manage the trick (we've tried).*

Envelope printing is a pain. There is no good solution. Use continuous labels.

One solution to the problem of the numeric keypad (we're assuming you wish to use it for data entry) would be to redefine some other keys as cursor keys – perhaps 1,2,3 and 4 at the top. Use the SETKEYS utility as described in this issue. To make this happen you'd need the file below:

64 N "^31" cursor up
65 N "^30" cursor down
57 N "^6" cursor right
58 N "^1" cursor left

Save this as a simple Ascii file called CURSES.KEY and run it whenever you start SuperCalc 2.

Revealing secrets

The article on SET in August (issue 35) erroneously stated that CP/M doesn't appear able to work with passwords – rubbish. A full file specification has the form: A:FILENAME.TYP;PASSWORD Note that the delimiter is a semi-colon, which is why it can't be used in file names. Passwords can be used with most CP/M utilities, though not the Amstrad PCW specific utilities, in the following form. PIP M:FILENAME.TYP;SECRET There are two problems: most utilities don't ask you for a password if you don't provide one and no commercial CP/M software checks for passwords at all (including Basic) and most get upset if you try to give them one.

Philip Barrett
Cambridge

Half time

Are you fed up with constant disc changing when copying discs on your 9512? You can reduce the number of disc swaps from six to three simply by erasing the LOCOSPEL.DCT FILE from drive M before copying. In fact, since LocoScript uses drive M to store information during the copying process the more you can clear from M the faster the copying process will go. Under CP/M, with a completely clear M drive, a 720K disc needs only two swaps to copy.

Tim Coulihan
East sussex

Transfer fee

In a recent issue you mentioned that the easiest way to transfer material from a LocoFile database to a LocoScript document is by means of LocoMail. Does this mean there is another, less easy, way for those of us without LocoMail.

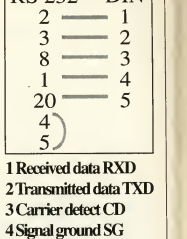
Tom Coultate
Leighton Buzzard
Bedfordshire

8000 PLUS *The hard way is to cut and paste them in one at a time.*

Olden modem

I've recently been given a Prism modem 2000. As it was manufactured by Thorn EMI Datatech at Feltham, Middlesex I tried them, but telephone numbers supplied all ended as "number unobtainable".

With the unit came a separate unit, a 5 pin Din plug terminating in a double-sided 22 way PCB. I am hoping, as I've failed elsewhere, that your vast store of knowledge will come to my rescue and I'll be able to connect this to my PCW8512 and get on line.



T A Horton
Doncaster
Yorks

8000 PLUS

As we're sure you know you have a nice little V23 (1200/75) modem once called a VX540 and designed for use on Prestel systems. Throw the lead away and get a suitable five pin DIN connector, some multicore cable and the requisite RS232 D type connector. The connections at the modem end are as above:

If this doesn't work you might try connecting pins six and eight together as well at the PCW end. That completely exhausts our vast store of knowledge.

Downloaded

There is a very simple way of using the special LocoScript characters – like mathematical symbols and the Greek character set – from Protext provided you have a printer that can accept a downloaded character set. These include all of the 24 pin printers and some 9 pin printers. This tip is specific to the Citizen HQP24 printer but the principle applies to any other printer with a download facility.

First you need a document in LocoScript, call it DOWNLOAD, containing the characters you wish to use in Protext. Once that

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VISA Access

document has been printed, using the Locoscript's 24 pin printer driver, these characters will remain in the printer's RAM memory even if you reset – or turn off – the PCW. They remain until the printer is turned off or reset. You can now load Protext under CP/M and make use of them.

You now need to redefine a printer control code in Protext to switch to the downloaded character set. Using the inverse x this can be a stored command like this:

>CC 27 37 49;27 37 48

at the beginning of a document or it can be done by altering the printer driver using the SETPRINT Protext utility. Now, any character enclosed in inverse x's will be printed using the redefined downloaded characters – but what are they?

Characters to be printed must be in the same pitch and quality as the original LocoScript characters. The following list is how the keys map using my printer. Anyone using a different one may find that they have to discover the relevant match for themselves.

To make things even easier an Exec file can be set up in Protext with the keys producing a complete symbol with a single keystroke (two really). For example the infinity sign would need a line like this:

KEY I "?24↑xY?24↑x" ; infinity

The only drawback with this technique is the time it takes to load LocoScript and print out the DOWNLOAD document first. Fortunately this only has to be done when you need to print out a Protext document with the mathematical symbols in.

Kai Arste
Llantwit Major
South Glamorgan

$$\int_0^{\pi/2} \sin\theta \; d\theta = [-\cos\theta]_0^{\pi/2} = 1$$

An example of the kind of thing that can be printed out in Protext using this method.

≤	1			σ	G
≥	2	)	;	δ	H
±	3	≤	c	γ	J
≠	5	c	b	λ	K
×	6	∏	n	Σ	L
·	7	∑	m	(	:
½	8	≈	_	[	<
—	9	ψ	Q	{	>
]	=	⊥	W	↑	Z
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∃	g	χ	P	ε	@
⊃	h	ρ	A	∀	`
∪	j	v	S	∫	~
∨	k	π	D	→	\
✓	l	α	F		

The DOWNLOAD file and the character equivalents in Protext

SWITCH 1	2	3	4	5	6	7	8
SWITCH BLOCK							
1	ON	ON	ON	OFF	OFF	OFF	ON	OFF
2	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF

Dippy

Having had problems with my 24 Pin Epson LQ500 printer, and solved them, others might be interested in the correct DIP (stands for Dual In-line Package) switch settings for this range of machines.

This gives you USA international character set, Roman font, condensed mode off, graphics character table, CSF off, Page length 11", CSF page 61 lines, 1" skip off, auto line feed off, input buffer 1K, bidirectional graphics print and character pitch 10.

Roger Bonnet
Dover

Nothing hard

It can be very irritating to see LocoScript chopping up pairs of words that you wanted to keep together. There are two ways to stop this from happening.

Hard spaces are the first method. For example, if you have a name like A. Person you wouldn't want the initial seperated from the surname. Instead of putting in an ordinary space use a hard space, which you get by pressing [+]space. Now the two parts of the name will always appear on the same line.

A similar trick can be done with hyphens. Normally, a hyphenated word will split at the hyphen if it needs to wrap to the next line. An hard hyphen will ensure that the two parts stay togther. To put a hard hyphen into a word use [+]hyphen and the two will be treated as a single word by LocoScript.

Donald Sawyer
London

Trepanned

I have completed brain surgery on my 8256, using the information in Amstrad 8000 No 9 of June 1987 *(we'll be doing it again soon, honest – ed.)* and No 11 of August 1987 (for a B-drive). All fine, except I seem to be missing 84K in its M-drive and it occasionally has a headache and translates saved LocoScript 2 blocks into an Indo-Turkic gibberish script, yet the new chips seem to be all the right way round. Why?

One word of warning to other amateurs: buy a very long – 10 inch – Posidrive screwdriver to remove and replace the case and to fix in the new drive.

Warren Shaw
London

***8000 PLUS** Bit of a Bobby Puzzler this one. Assuming no physical damage to the board the most likely problem is a leggy bug, which is to say that one or more of the new memory chips failed to seat properly. It may be that a leg became bent beneath a chip instead of sliding into the hole in the carrier. Remove the board and visually check the chips, using a mirror on a stick if necessary. Less likely is a faulty chip, but you can only test for that by replacing them.*

Twisted perception

I have bought a Star LC24-10 printer to use with my 9512. It works well with LocoScript, using the correct printer driver supplied by Locomotive Software.

Things are not so good with CP/M. When I use a graphics package (DR Graph) that takes advantage of the GSX system the quality or printout is abysmal. What should be pie charts end up as ovals rather than circles. The text also looks pretty ragged.

When using GSX I use the high resolution printer driver DDFXHR8.PRI supplied on the CP/M disk. Do I need to have a special printer driver for 24-pin printing? If so, does such a driver exist?

Nigel Bickerton
Merseyside

***8000 PLUS** When a printer – other than the built in PCW printers – prints text it does so from information held internally in the printer itself. This means that the computer simply sends a single number and gets a character printed. However, the situation with graphics is different. Graphic information is sent as a block of data which has to be mapped onto the pins of the printer. Since 9 pin printers obviously have 9 pins and 24 pin printers have two rows of twelve pins they aren't going to behave the same.*

Few programs on the PCW have 24 pin graphic drivers. In fact the only one we know of is MicroDesign II (reviewed in this issue).

The Good Software File

These pages provide a comprehensive guide to the Amstrad PCW software. Published in three monthly parts, this time it's the turn of Databases, Educational Software, Communications and Programming Languages. We've set out to cover every important piece of software we could lay our hands on, and to give you enough information to decide whether they are suitable for you.

All software will run on both the 9512 and the 8000 series machines, though the former's daisywheel printer cannot print graphical output.

The selection isn't comprehensive, but the software listed here represents what we think is the best of that currently available.

As well as a brief summary of what they do, the main Plus and Minus points for each program are listed – Pluses have a ▲ by them, Minuses a ▼. Those we think are particularly noteworthy have a corner flash. Have fun window shopping!

Databases

There are broadly two different types of database, and which suits you best depends, of course, on what you want it for.

Firstly there's the simple card index substitute. For many home users, this will be the kind of thing you want – all it does is store your address book or stock items so that you can easily look them up.

A more sophisticated option is the programmable database. With these, in addition to allowing simple card index retrieval there is a command language which allows you to analyse the data on the cards. For example, you could automatically add up the money owed to you by all your customers from Yorkshire. To make best use of this kind of facility, you will need to be able to understand a little programming, although it's not too hard really.

A bit of jargon now. A database is said to consist of records – this is just like a card in a conventional card file, with all someone's details on it. Each record is composed of fields – a field is a single entry on a card, like someone's name, or age, or postcode.

The thing that makes a database special is an index. You might be able to hold your address book as a simple list in a word processor document, but if it gets large then this becomes unwieldy. An index means that the database has worked out which order records should be in, so it can go straight to the one you want without looking at lots of others first.

The field that you use as your index (e.g. someone's surname) is said to be a key field, and can be looked up very fast compared to "non-key" fields. A good database will allow multiple keys, meaning that it can look up data just as fast for a variety of types of information.

Masterfile 8000

£49.95 • Campbell Systems • 0378 77762/3

A specially written PCW version of the successful database sold on other Amstrad computers. It is fully menu controlled, and makes good use of the PCWs special screen and keys. It can deal with up to 8 separate data files at once, so can cope with relational databases. Screen (but not printed output) can be elaborately laid out with boxes, lines etc.

PLUSES • MINUSES

▲ Works fast
▲ Wide range of Layout options
▲ Handles 'relational' files
▲ Plenty of good example files
▲ Can do arithmetic calculations within its records
▼ Capacity limited by size of M drive – best on an 8512
▼ Takes a while to learn all the features

Cambase II

£49.95 • Cambrian Software • 0766 831878

New version of the old favourite PCW database. Most important change is the Copy Filespec facility. You can set up a new database with potentially more entries than you've made provision for using the information from the original database. You can also change the fields to suit another set-up.

PLUSES • MINUSES

▲ Quick and efficient to use
▲ You can set up a database blueprint (Filespec) which you can test thoroughly before entering data
▲ Includes powerful features like conditionals, loops, field validation, and specified layouts
▲ Simple parts of the program are well covered in the manual
▼ Can't use the memory bad news for 8256 users
▼ You have to guess how to use the more advanced features
▼ Not much room for prompts
▼ Tendency to crash occasionally in Filespec

LocoFile

£29.95 Locomotive 0306 740606

The indexed pop-up database that runs from within LocoScript 2 and that goes even further toward turning LocoScript 2 into a completely integrated software package. Unlike most databases empty records take up almost no space on disc. This allows large record cards to be defined even if they won't always be used. Records pop up very quickly without having to exit from your document. Works best when used in conjunction with LocoMail.

PLUSES • MINUSES

▲ Very easy to use
▲ Unusually efficient use of disc space
▲ Can alter existing index - a very powerful feature indeed
▲ Automatically upgrades your LocoScript, LocoMail and LocoSpell to version 2.2
▲ Sample databases help you get a better feel for the program
▲ Very flexible when designed the record format
▲ Carries out searches on partial strings - Ideal for when dealing with incomplete information

Chibase 3.0

£29.95 Chiasma 06333 60996

The updated version of the 'free format' database. You type in the text, mark the words to be indexed and treat the file as a database. The updated version allows you to import and export ASCII data files and a chain delete option enables you to work your way methodically through the database deleting the records you don't want while keeping those that you do.

PLUSES • MINUSES

▲ Good amend, sort and recall features
▲ You can edit without a word processor
▲ Searches quickly through data
▲ Great for storing large amounts of data where the subject matter is variable
▲ Useful record template
▼ Can't run from M drive

Delta

£99.99 • Compsoft • 04868 25925

Delta is another of the heavyweights, like dBase II and Condor, but unlike them is fully menu driven. Although the screen layouts are fully flexible, there is a default "quick" layout so you don't have to sweat at defining your own. It could use better record indexing facilities. Particularly good for writing applications, once you have ploughed through the large manual.

PLUSES • MINUSES

▲ Records can contain up to 90 fields, plus groups of fields that may be repeated
▲ Screen layout can be user defined, or "quick" mode used
▲ Single page letter writer provides detailed mail merge
▲ Processes can be defined, and run from user defined menus, for ease of use by others
▲ Very full, and quite readable, manual
▼ Only one field may be used for indexing
▼ Very big program – a PCW8256 would be hard pushed
▼ Some of the menu operations are unforgiving to errors

Pocket InfoStar

£69.50 • MicroPro/DRA • 0386 841181

Consists of two large programs, DataStar and ReportStar (both available independently). DataStar is a conventional database, with screen card layout and indexing. ReportStar then generates the printed output, either from DataStar or CalcStar files. Powerful if you can use them, but the suite is horrifically overcomplicated, and the documentation just incomprehensible.

PLUSES • MINUSES

▲ DataStar is a quite good database with indexing and calculated fields.
▲ "Transaction processing" feature allows cross referencing of data files
▲ Can be integrated with other Pocket products, eg WordStar.
▲ Can take up to 255 fields per record
▼ Two volume manual set is very badly organised.
▼ There are separate programs to run for form design, data entry and reporting.
▼ Operation is all by obscure command keys, à la WordStar.

Chibase

£49.95 • Chiasma • 06333 60996

A 'free format' database, which means you don't have to go through the usual rigmarole of defining your record format before you can enter your data. Instead, you just type text into Chibase, mark the words to be indexed, and it can then treat that file as a database.

PLUSES • MINUSES

▲ Doesn't require you to set up a preset 'record' card
▲ Searches through your data very quickly
▲ Allows you to select up to 50 keys for each page of text
▲ Allows editing of text without a word processor
▼ No sample file for you to learn on

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The Atari Super Pack is ideal for you if you went to get off to e flying start with the best in entertainment software The Pack includes e 520ST-FM with ½Mb RAM, a built-in 1Mb disk drive, over £450 of top games end a joystick If you buy the Super Peck at Silica Shop, we will add our own ST Starter Kit (worth over £200), Free Of Charge Return the coupon for details

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SOFTWARE

dBase II

£99.00 • Ashton Tate/First Software • 07357 5244

The WordStar of database packages. Recently licensed "cheaply" for Amstrad machines, dBase II is a market leader in business computing. As you would expect, this means it is very powerful but very complex. It has a procedure language to allow you to write programs to manipulate the data, and you can construct index files for really fast access to large databases. If you can make the effort to learn it, it'll serve you well.

PLUSES • MINUSES

- ▲ Powerful command language for customised programs
- ▲ Indexing facility makes large databases fast to handle
- ▲ Can handle very big databases
- ▲ The data can be fairly easily altered after its entry
- ▼ Manual is daunting (but there are plenty of independent books on the market)
- ▼ Can't easily alter the screen record layout
- ▼ For an expensive package, you still only get 32 fields per record
- ▼ Generally unfriendly unless you have some programming skills

First Base

£29.95 • Minerva • 0392 437756

Billed as a simple database for the first time user, First Base is quite a competent cheap card index. The manual is computer printed, and weak on diagrams which doesn't help things. One weakness is getting printed results out of First Base – either you settle for crude lists, or you have to create a template in LocoScript which is awkward to do. But overall, it's pretty good value for money.

PLUSES • MINUSES

- ▲ Can alter the index field at any time
- ▲ Simple to use screen editing make data entry easy
- ▲ Good value as a simple card index lookup system
- ▲ Can easily browse through the database picking out a set by hand
- ▼ Manual is badly laid out and generally difficult
- ▼ Producing printed output is awkward

Sagesoft Retrieve

£70 • Sagesoft • 091 2131555

A high-power package that is relatively easy to use with password security if desired, calculations, automatic counting or deletion of sets of records satisfying given conditions. It also has sophisticated sort and select commands, and can change the structure of an existing database. All this is done by a set of commands rather like a programming language. Printed formats are rather limited though and the program insists on using both drives, making use on an 8256 impractical.

PLUSES • MINUSES

- ▲ Easy to use for a powerful package
- ▲ Advanced sorting and selection commands
- ▲ Subsets can be written to files
- ▲ Can count or delete subsets with one command
- ▲ Labelling/mailmerging routines included
- ▲ Can change structure of existing database
- ▼ Impossibly big program for 8256
- ▼ Printed output limited – must use mailmerge

Script2Base/Text2Base

£29.95 each Encyclasoft 0270 811890

Two free-form databases to be used with LocoScript and Protext respectively. Complete rewrites of FT+DB, the beauty of these databases is that you first create all your text on the word processor and import it as an ordinary (non-ASCII) text file into the database. You then mark all the words you want to see indexed as keywords so that you can go on to compile indexes and carry out searches.

PLUSES • MINUSES

- ▲ Very easy to use
- ▲ Allows you to organise your collection of discs like an encyclopaedia
- ▲ Can construct new files made up of selected parts of existing ones
- ▲ Can send any part of a document to the printer on a line-by-line basis
- ▼ No text-editing facilities within the databases themselves
- ▼ Dreadful documentation

Smartcard

£59.95 • Focus Computers • 0272 420109

A conventional card index database which is now the nearest thing available to Cardbox . Small and fast, you can sort the records, index up to three fields and do simple arithmetic in fields. Can't put background text (eg. titles) on records or printouts.

PLUSES • MINUSES

- ▲ Good clear screens
- ▲ Plenty of on screen help
- ▲ Fast and high capacity
- ▲ Ehsy to use
- ▼ Can't put background text on printed reports
- ▼ No way of exporting data for mailmerge

Magic Filer

£69.95 • Sagesoft • 091 2131555

Magic Filer is not a true database, but is a structured filing system. Information is split into a hierarchy of categories, and tagged with a keyword which is not stored as part of the data. You can browse through the data, but it will get tedious if you find it needs updating regularly. Many applications will find Magic Filer restrictive.

PLUSES • MINUSES

- ▲ Good for browsing through data when you don't really know what's there
- ▲ Data can be declared "read only" to protect it from alteration by other browsers
- ▼ The basic filing system is weird but not wonderful
- ▼ Editing data once in Magic Filer is awkward
- ▼ The documentation is far too brief
- ▼ You can only have one database per disc

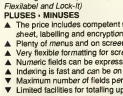
Microfile (Sold in The Micro Collection)

£49.95 • Saxon Computing • 0401 50697

Microfile is a well implemented simple database, driven by plenty of menus and on-screen prompts. It's fast and has good screen control, although it has some size restrictions. Microfile comes as part of a software suite, "The Micro Collection", which is good value (Microfile, Microwrite, MicroSpread, Flexilabel and Lock-It)

PLUSES • MINUSES

- ▲ The price includes competent word processing, spread sheet, labelling and encryption programs
- ▲ Plenty of menus and on screen prompting
- ▲ Very flexible formatting for screen layout and printing
- ▲ Numeric fields can be expressions to be calculated
- ▲ Indexing is fast and can be on several fields
- ▼ Maximum number of fields per record is only 20
- ▼ Limited facilities for totalling up fields in a database



Educational Software is designed as an aid to traditional teaching, not an alternative. Its main use is in re-inforcing traditional learning done elsewhere and providing the stimulus of a different approach. It can also be especially useful in rote learning and improving the speed at which problems can be solved.

Iankey Crash Course

£24.95 • Iansyst • 01-607 0187

A fairly traditional typing tutor, taking you through basic keyboard exercises. There's a lot of explanatory text, which gets in the way second time around. Definitely competent, but a bit boring.

PLUSES • MINUSES

- ▲ Mostly avoids boring letter drills
- ▲ Very full on-screen information guides you along
- ▲ "Fast" option cuts out some text if it gets repetitive
- ▼ Not particularly imaginative use of graphics
- ▼ It doesn't always ensure that the cursor is properly aligned with the exercise text

2 Fingers Touch Typing

£24.95 • Iansyst • 01-607 0187

Despite its provocative name, a useful typing tutor in that it specifically caters for people who can already get by on keyboards with two fingers. You are gradually introduced to touch typing, so your speed doesn't drop while you learn. Fills a necessary slot in the Typing Tutor market.

PLUSES • MINUSES

- ▲ Suitable for improving two finger typists without much drop in speed
- ▲ Full on screen instructions
- ▲ Exercise material is interesting text, not letter drills
- ▼ Explanation text is annoyingly verbose in some lessons
- ▼ It doesn't always ensure that the cursor is properly aligned with the exercise text

Giantkiller

£14.95 • Topologika • 0733 244682

A mathematics adventure game loosely based on Jack and the Beanstalk. Lots of intriguing puzzles which should stimulate any student up to GCSE standard. Not the best adventure game ever written but great for making mathematics fun!

PLUSES • MINUSES

- ▲ Puzzles plausibly integrated into scenario
- ▲ Progression of game is simple and well defined
- ▲ Puzzles introduce a lot of valid mathematics
- ▼ Program understands only very simple commands
- ▼ Saving a position takes a move – can be fatal
- ▼ Won't be of particular help in exams

Animal Vegetable Mineral World Wise

£14.95 each • Bourne Educational • 0794 523301

Aimed at the younger market, 7-15 year olds. Both these programs work by learning as the child uses them. Think of an object and the computer tries to guess it. If it is wrong, the child is asked for a question which would allow the PCW to be right next time, and it learns.

PLUSES • MINUSES

- ▲ Can be used as many times as the child's imagination holds out
- ▲ Performance can be analysed by a teacher after a session
- ▲ As you build up a base of objects and questions, they can be saved for reuse
- ▼ It needs a lot of typing, hence a lot of supervision
- ▼ The PCW struggles with only two objects known , so it takes time to get going
- ▼ Documentation has hardly been altered from cassette based versions
- ▼ Since it is for young children, more imaginative use of the screen would be nice

Better Spelling

£16.95 • School Software Ltd • 010 353 61 45399

This is a spelling course aimed at the 8 to adult age group. It consists of a series of well organised, short lessons each dealing with one topic, like plurals or which version of there/their/they're to use in a sentence. The use of the PCW screen is rather unimaginative, and doesn't hold your attention.

PLUSES • MINUSES

- ▲ Well thought out lessons to emphasise particular points
- ▲ Teaches words in a sentence context as well as in isolation
- ▲ Lessons can be picked in any order from a menu
- ▲ Seems to be proof against mischievous key pressing
- ▼ Boring use of the screen doesn't grab interest
- ▼ No instructions come as to how to use the program.

Chemistry • Biology

£22.95 each • School Software • 010 353 61 45399

These two are fairly traditional question-and-answer tests. You are faced with a choice of 10 topics, and then asked 10 or so questions each, where you have to fill in the blank in a statement. There are preamble notes beforehand, and if you get it wrong you are given a clue. Aimed at 12-16 year olds.

PLUSES • MINUSES

- ▲ Questions would challenge a GCSE pupil well
- ▲ Preamble notes introduce topics
- ▼ The fill in the blank questioning style has little flexibility for different answers
- ▼ No option to add questions for a specialised syllabus
- ▼ Some careless errors, like incorrect facts and hard to decipher chemical formulae

Micro Maths

£24.95 • LCL • 0491 579345

Supposedly covering 8 to adult ages, this seems an O-level type program, covering topics from calculus to tables. A good implementation on the PCW with proper use of the screen. Questions are picked at random from a pool, so may repeat but never run out. Replies to questions are typed in mathematical notation, like X^2+3

PLUSES • MINUSES

- ▲ You can pause to use BASIC as a calculator while you think
- ▲ "Unlimited" question set
- ▲ Comes with a 'free' book of AEB O level questions
- ▲ Good hints and explanations

P.C.W LOCK-SMITH

The LOCKSMITH is a combined disc editor and format emulator. Allowing you to edit, examine and transfer most non-standard formated disc sectors automatically, but for those more complicated formats, LOCKSMITH will give you options to edit disc parameters so as to emulate even more non-standard formats.

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Supermaths

Specially written for Amstrad PCW Computers. User-friendly, enjoyable package: multiplication (including tables), division, addition and subtraction (4 levels of difficulty) - ages 5 upwards.

PRACTICE and TEST modes. Scores shown, success rewarded. PRACTICE mode corrects mistakes. In TEST mode you answer questions against the clock.

WORKSHEET mode produces worksheets on the printer with a choice of two different styles, with separate answers.

Can provide hours of competitive fun while improving numeracy skills. Suitable for home and classroom alike.

Also available for Amstrad PC Computers and Compatibles.

Price £16.95 inc VAT P&P (cheques payable to Abacus Software) send payment with order to: 11 Woodcote Drive, Orpington, Kent BR6 8DB

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SOFTWARE

▼ Questions in a topic repeat occasionally
▼ Some frills, like the clock and beeper, are annoying
▼ No flexibility to add questions for a particular syllabus

Amstat 1,2,3,4,6 and 7

£28 - £40 • SC Coleman Ltd • 0530 415919

A suite of six statistical routines including a business analysis program, forecasting and resource management. Individual prices range from £27.95 to £39.95. Very sophisticated, and perhaps because of that, a little awkward for beginners.

PLUSES • MINUSES

▲ Good range of statistical functions
▲ Good manual
▲ Can produce good quality graphical results
▼ Some editing procedures very long winded
▼ Needs some expertise to use properly
▼ Weak on checking that input data is reasonable.

Yes Chancellor!

£14.95 • Topologika • 0733 244682

Wait! Don't skip over Yes Chancellor because it calls itself an 'economic simulation' program. Instructive and fun to use, you type in your annual budgets (tax rates, public spending etc.) and see your popularity plunge and the economy crash. Great for economics classes, also an amusing game in itself.

PLUSES • MINUSES

▲ Simple but effective model of the economy
▲ Comes with booklet explaining economic principles
▲ Great for teaching economic and political pragmatism!
▼ Can get boring as a game
▼ You can't adjust the model of the economy, so it can be too simple

Write Right

£9.99 Wadd Soft 0253 721303

Program consists of 24 sets of multiple choice questions designed to test and improve the student's knowledge of the English language: sentence construction, spelling, punctuation, vocabulary, for example.

PLUSES • MINUSES

▲ Covers all the most important aspects of language learning
▲ Very addictive
▲ Good fun and easy to use

Ultimate Quiz

£14.95 David Greenhough Computing 0274 640764

An educational aid for school age children. Two quizzes on a multiple choice format are available on the one disc. The first one is a general knowledge quiz, the second is based on the Highway Code. You can play against a timer and can set the level of difficulty

PLUSES • MINUSES

▲ Optional noughts and crosses game included with either quizz
▲ Incorporates an editing file for easy updating of questions
▲ It's very versatile up to 8 people can play
▲ Provides hours of general knowledge fun
▲ None of the questions are repeated
▼ Some of the questions are a little esoteric

Supermaths

£16.95 Abacus Software 0689 36293

Specifically designed for the PCW, this program exercises basic numeracy skills in children. Questions are asked in quick fire volleys of ten and cover all four operations (addition, subtraction, multiplication and so on). Scores are automatically recorded.

PLUSES • MINUSES

▲ Special original Test and Worksheet modes included the latter is ideal for teachers
▲ Very efficient scoring method
▲ Numeracy level is very basic
▲ New version has enhanced screen displays
▼ Some of the questions may start to look familiar after a while

Language Tutors

£19.95 each Kosmos Software 05255 3942/5406

Four programs with identical formats to help you learn French, Italian, Spanish and German. They can be used just as effectively by students of those languages learning English too. Very versatile series of programs and useful adjuncts to conventional language learning.

PLUSES • MINUSES

▲ Can edit the lessons yourself to include new words
▲ Useful self test option
▲ Completely bi lingual packages
▼ Purely for vocabulary learning no grammar lessons
▼ Would have been more useful if they had also included audio cassettes

Maths Mania

£16.95 School Software Ltd 010 353 61 45399

For children between the ages of 8 and 12, this program offers 5 levels of difficulty in multiplication and 2 in division. A very good program for exercising basic numeracy skills and for practising some mental arithmetic.

PLUSES • MINUSES

▲ Program provides a chirpy feedback on the score of the user
▲ Large attractive numbers appear on the screen
▼ Surprisingly enough, no addition or subtraction exercises are provided
▼ Screens could be made more visually exciting for the younger users

Better Maths

£16.95 School Software Ltd 010 353 61 45399

A continuation of Maths Mania for the next age group 12 to 16 year olds. Topics are very varied and cover, among others, statistics, simple interest and algebra. Each topic consists of a series of ten multiple choice questions. At the end of each set, the percentage scored is shown.

PLUSES • MINUSES

▲ Realistic level of difficulty practised
▲ Program makes a first class revision aid

Communications

Communications is one of the glittering areas of computing, gurus would have you believe. It can provide a fascinating hobby for 'hackers', but more importantly it is a valuable business tool.

'Electronic mail' is just what it says: you use your PCW to send messages, which can be documents thousands of words long, to others on the electronic mail system. The best known system of this kind is Telecom Gold, which also allows you to send telexes. Another major system is Prestel, which is more of an information provider – you can read share prices, weather information and other news direct from your phone line.

For any professional service, you pay a registration fee, plus a connection charge – typically around 10p per minute you use the system. Of course, your phone bills are extra. For hobbyists there are also 'Bulletin boards', which are effectively a kind of private electronic mail system run by a system operator (a 'sysop' to those in the know).

To use any service, you will need to buy a modem and an interface. A modem allows you to send computer signals down a phone line, and the interface gets the signals from your PCW to your modem. The pair will set you back £200 or more. Once done, you need some software to allow you to send and receive data, and it is this software reviewed below.

Electronic mail services just send strings of characters to and fro, whereas Prestel is a 'Viewdata' system, meaning it sends pictures and graphics too. Software needs to do more to receive Viewdata graphics, so if you want to use Prestel make sure your software is up to it.

8256UKM7.COM

Public domain (ie. free!)

P.D. software documentation is often poor but this program has an above average document file. UKM7 was written to support ASCII file transfers using error correction and as a dumb terminal either for use over the phone or between two Amstrads.

Between two PCW's file transfer is possible at a staggering 31,250 baud which is even faster than PIP! Easy to use for beginners and better than KERMIT, UKM7 provides a cheap and excellent way to communications after you've got fed up with the PCW's MAIL232. 8256UKM7 is available from the Public Domain Special Interest Group, or most bulletin boards supporting the PCW machines.

PLUSES • MINUSES

▲ Cheap! (the price of a phone call)
▲ Easy to use, and helpful menus
▲ Modem7 version of Xmodem error checking supported
▼ Single file and batch file transfers
▼ "Quiet" mode for slightly faster transfers (on-line transfer progress report disabled)
▼ Only ASCII, no Viewdata
▼ You need to find a PD software source (eg. use a modem and MAIL232 software)

Mini Office Professional

£29.95 • Database Software • 0625 878888

Mini Office is a suite of five integrated programs: *database, word processor, spreadsheet, graphics module – and a comms package which is as comprehensive as anything else on the market. It can display both ordinary text screens and the 'Viewdata' block graphics used by Prestel. You are offered baud rates from 75 to 9600, separately set for transmit and receive, straight terminal emulation for use with Telecom Gold, and XMODEM and KERMIT file transfer protocols for error-proof transfer of ! ong files. Would be well worth the money just by itself – and of course you're getting four other very good programs as well.*

PLUSES • MINUSES

▲ Very comprehensive – a genuinely useful comms package
▲ Ordinary text and 'Viewdata' block graphics
▲ Can save settings under names and recall them, so you only need work out your baud rates/parities once
▲ You can set keys to return strings, such as Telecom Gold passwords
▲ Comes preconfigured to use Prestel and Telecom Gold
▲ Manual is of very little use

Chitchat E-Mail/ Viewdata/Combo

Sagesoft • £69.99/£69.99/£99.99 • 091 284 7077

Two communications programs for the 8000 series machines that have been around for a good time now. Most of the features you will need are here: message text editor, preprogramming unattended tasks(if you use a suitable "intelligent" modem), directory of stored numbers, copy to printer, and a very useful connect time clock so you can watch your phone bill climb! E-mail is used for simple text phone links like Telecom Gold, whereas you'll need Viewdata if you want to use Prestel. The Combo pack contains both E-mail and Viewdata.

PLUSES • MINUSES

▲ Good, clear documentation
▲ Easy for first timers to use
▲ Built in text editor for pre-sending message preparation
▲ Pre-definable tasks executable at any preset time if unattended.
▼ No error corrected file transfer (i.e. Xmodem or CRC)

Dialup

£89.99 • PMS Communications • 021-643 7688

Offers both E-mail and Viewdata operations. Very easy to use, and offers an XMODEM transfer protocol unlike Sage ChitChat. If you are buying a modem too there are some cut-price bundled deals to be had, eg. the Miracle Technology WS4000 modem.

PLUSES • MINUSES

▲ Simple to use
▲ Comprehensive file transfer commands, including XMODEM and the increasingly popular KERMIT
▲ Runs from the M drive
▲ Manual is not PCW specific, and the references to 5.25" discs are tedious

COMM+

£86.25 • NewStar • 0277 220573

This single package combines both ASCII and full Viewdata block graphics and Telesoftware downloading. A very powerful command language allows you to look for particular messages coming in and take actions, even while doing other things. Its use is only limited by your programming ability.

PLUSES • MINUSES

▲ Very comprehensive and well indexed ringbound manual
▲ High quality Viewdata graphics
▲ Well presented on-line help menus for use by beginners
▲ Autodialler program works with most modems

- ▲ Telesoftware downloading facility, with CRC/Xmodem checking
- ▲ Very powerful command language, doesn't need much programming skill to learn
- ▼ Not recommended for absolute beginners to communications

Programming

Programming languages come as either 'compilers' or 'interpreters' – compilers pre process the program into machine code, so are much faster. The PCW's standard Mallard BASIC and LOGO are both interpreters. Compilers are generally more cumbersome to use than interpreters, but have various benefits for serious programmers.

With language compilers in particular it is difficult to discover whether they are reliable and efficient without spending many weeks working with them, impossible for a brief review. If you use a specialised programming language and have any comments that would help us compile a good software file entry for it, we would be pleased to hear from you.

HiSoft C

£39.95 • HiSoft • 0525 718181

A very good C compiler, fast, produces good compact code. It comes complete with the HiSoft integrated text editor ED80.

PLUSES • MINUSES

- ▲ Compiles program into ordinary CPM .COM file
- ▲ Produces compact code
- ▲ Fast and inexpensive
- ▲ Comes with integrated text editor
- ▼ No floating point arithmetic

Arnor C

£49.95 • Arnor • 0733 68909

Good compiler with floating point arithmetic, but not as fast or as cheap as HiSoft C.

PLUSES • MINUSES

- ▲ Excellent integrated text editor
- ▲ Floating point arithmetic
- ▼ Cumbersome to produce .COM files, needs special run time support program
- ▼ HiSoft C is faster and cheaper

MIX C

£29.95 • Advantage • 0242 224340

American C compiler. You can buy a full screen editor with it for £19.95 extra. Also machine code assembler & examples for £8.95 each.

PLUSES • MINUSES

- ▲ Features an excellent C tutorial
- ▲ Comprehensive implementation and massive manual
- ▼ Not for the newcomer to programming

Pascal 80

£39.95 • Hisoft • 0525 718181

A standard full Pascal compiler that produces compact code, Comes with the ED80 text editor and a stand alone programmers editor.

PLUSES • MINUSES

- ▲ Well integrated text editor – when you hit a compilation error you are returned to the correct point to edit it
- ▲ Short compilation time, economical on memory
- ▼ Manual makes no attempt to teach you Pascal

Hisoft Forth

£19.95 • Hisoft • 0525 718181

Forth is an unusual language, somewhere between assembler and C. This is one of the few compilers available for the PCW.

PLUSES • MINUSES

- ▲ Comes with a Forth editor
- ▲ Quick and efficient implementation
- ▼ Manual doesn't teach you Forth

The Vicar

£49 • Iansyst • 01-607 5844

A programming tool for serious programmers. If you have a several-hundred line program held in several files on a disc, you can lose track of which variables are used where. The VICAR produces a concordance listing and other diagnostics, to help you find bugs and maintain the program.

PLUSES • MINUSES

- ▲ Easy to use but still flexible through use of options
- ▲ Amstrad versions all at a special low price
- ▲ Good manual
- ▼ Only of value on large programs
- ▼ Limited value to most PCW users (except BASIC buffs)

Modula 2

£45.00 • Hisoft • 0525 718181

A compiler. Modula-2 is the successor to Pascal, good for large programs requiring separate compilation. complete with text editor.

PLUSES • MINUSES

- ▲ Full implementation with extensions.
- ▲ Includes libraries of predefined modules
- ▲ WordStar type screen editor included
- ▼ Compilation process is longwinded and not for beginners

CBASIC

£45.00 • Digital Research •0635 35304

The original Basic compiler from Digital Research, and still one of the best for anyone wanting to produce COM files without abandoning their investment in Basic.

PLUSES • MINUSES

- ▲ Easier programming tool than conventional interpreter
- ▲ Very similar to Mallard Basic, so easy to learn
- ▼ No text editor – you need to buy a programmers editor such as ED80, or the public domain VDO25
- ▼ Programs don't necessarily work faster than they would in conventional Basic, sometimes slower

All You Ever ...

£24.95 CP Software 0993 823463

Program is ridiculously entitled All You Ever Wanted To Know About Graphics, the Universe and Everything on the PCW 8256/8512 but were Afraid to Ask. It's for the experienced programmer who needs fast, smoothly flowing and professional looking graphics output. It has a library of machine code routines which you can use in any language from Mallard Basic to machine code.

PLUSES • MINUSES

- ▲ You can produce professional standard graphics
- ▲ Demo programs included on the disc
- ▲ Routines are very wide ranging
- ▲ Excellent value for money
- ▲ New routines ot latest version concerned with printer control
- ▼ Not recommended for beginners
- ▼ Cumbersome to use from Basic

Pascal/MT

£45 Digital Research 0635 53499

A full implementation of ISO standard DPS/7185 Pascal with a number of extremely powerful additions. Is very good for large complex applications both data processing and system control.

PLUSES • MINUSES

- ▲ A very powerful tool for the serious software writer
- ▲ Unlimited program size with modular development and use of overlays
- ▲ Built in assembler
- ▲ Improved string handling (over standard Pascal)
- ▲ Choice of BCD real numbers for commercial/financial use
- ▼ No built in text editor
- ▼ Compiler in general and the manual in particular are not for beginners
- ▼ No graphics

DevPac 80 MKII

£49.95 Hisoft 0525 718181

Version 2 of the PCW hacker's first choice of development system. Substantially upgraded from the original with a new quite powerful debugger, and a Mini Officestyle main menu from which to run the individual utilities or your own finished programs.

PLUSES • MINUSES

- ▲ Powerful assembler producing REL or COM files
- ▲ Good hex facility for Basic programmers
- ▼ Text editor antiquated and clumsy
- ▼ Weak monitor

Maxam II

£49.95 (£69.95 incl. C) Arnor 0733 68909

CP/M machine code development system incorporating an editor, assembler and monitor. It will allow you to disassemble any of the memory banks including extra memory on M drive.

PLUSES • MINUSES

- ▲ Very versatile assembly language programming environment
- ▲ Flexible monitor capable of bank switching, conditional breakpoints and symbolic debugging
- ▲ Tailored to meet all CP/M Plus programming requirements
- ▲ Program can't cope with some undocumented Z80 instructions
- ▲ Program assumes basic familiarity with the Z80 assembly language

Arnor C

£49.95 Arnor 0733 68909

Good compiler with floating point arithmetic, but not as fast or as cheap as Hisoft C. It has a large run time support module

PLUSES • MINUSES

- ▲ Excellent integrated text editor
- ▲ Floating point arithmetic
- ▲ Ideal for anyone learning C
- ▼ Cumbersome to produce .COM files; needs special run time support program
- ▼ HiSoft C is faster and cheaper

NEXT MONTH

The guide continues with the categories of SPEADSHEETS, GRAPHICS and GAMES. The month after that will cover WORD PROCESSORS, ACCOUNTS/ PAYROLL, UTILITY and DTP software, and the month after that it's back to this months topics.

Our intention is to keep publishing the three parts of the guide in rotation, updating it each month to include all new products. If you would like to see other sections of the guide, back issues of 8000 Plus are available at #1.75 each.

Meanwhile, if you are aware of any significant omissions or errors in the File as published, please let us know. We intend to maintain it as THE authoritative guide to PCW software.

Senior Sure

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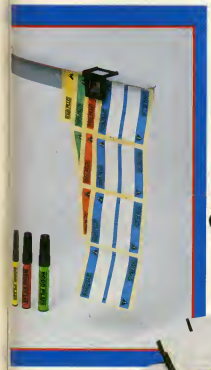

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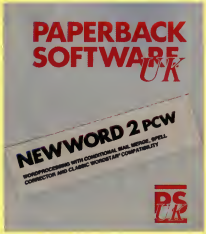

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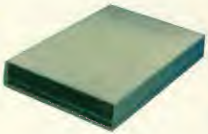

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See the full review in issue 31/35

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from Amstrad Plc

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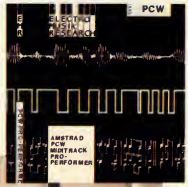

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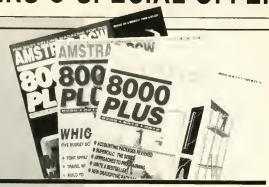

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POST SCRIPT

A quota of quibbles and queer quips from quirky quills

Those qwerty keyboards have been noisy of late, resulting in even more letters falling on the 8000 Plus doormat. After careful perusal of those not chewed up by the Zapf Dingbat we hereby present a sample selection. If you want to see your prose in print then send it to: Postscript, 8000 Plus, 4 Queen St. Bath BA1 1EJ. Keep them short, pithy and topical for best results.

Sybil stuff

An avid collector of wisdom from your addictive pages, I fell with delight upon your latest competition which promises 'never have trouble with words again'. But dear 8000 Plus, what about you? (have trouble with words, I mean). You instruct to ring in red 'five subtle differences', but what is the gauge of subtlety you use? I have discovered ten differences and am in complete dismay to distinguish between them for comparative subtleties so intend to send in ten ringed subtle differences.

But again my mind is thrown into more confusion: 'on a postcard or sealed envelope'. Do you mean this? Ah well, search for the gluepot as well as the scissors.
Mairi Macleod
Edinburgh

8000 PLUS A slight difference of opinion there between art and editorial – I wondered if anyone would notice. In fact any entry with five or more differences is going into the draw. Sorry about that.

Photographic recall

Having read Henning Brondum-Nielsen's letter (Postscript July '89 'About Time') I felt that I would like to add my four penny worth. There are some companies that stand by their delivery dates. For instance Pro-Am Software.
April 24 Sent for Fotocall Professional.
April 26 Received software; great.
April 29 Received a letter and pre-paid package to return the software as Pro-Am had found a bug (I couldn't) that may or may not be on my copy.
May 2 Posted software back.
May 5 Received de-bugged copy with additional features.
How is that for customer relations? We are all quick to condemn software houses and I thought you might like to let my fellow readers know that some do care about the end user. As for the program itself I find it just right for my needs as a busy photographer; I also find the same of 8000 Plus as a dedicated PCW user. Keep up the good work.
E Clarke
Redditch
Worcs

8000 PLUS Always good to get positive feedback; despite appearances we'd rather print good news about companies. Both you and they will be glad to hear that we're taking a look at Fotocall soon.

Smacked wrists

I trust that you will take the time to correct the impression which your readers will have received that I was the idiot who suggested that Newsweep would replace SUBMIT.COM in Tip-Offs (p70 August). How, pray tell, do you intend running the PROFILE.SUB about which I wrote in the first place?

Barry Etheridge
Oxford

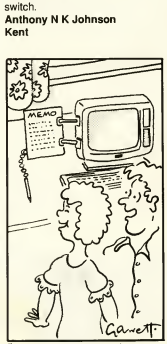
8000 PLUS It's all apologies this month. But we got most of it right, just a shade over enthusiastic at the end there and yes, you do need SUBMIT to make the tip work – A. N. Idiot.

Never say die

My PCW has been made easier to use in that I don't have to load Flipper, LocoScript 2, dictionary, LocoFonts, LocoFiles, CP/M etc each time I switch on. A friendly electronic engineer friend put a switch in that turns the monitor off, but leaves the computer itself on. Thus by flicking the monitor switch I can use the computer almost immediately.

The trick involves switching out the heater circuit to the electron gun in the tube. If not done correctly this can knock out the vertical scanning (which is superimposed on the heater voltage). Needless to say this is bad electronic practice, but in good old AMSTRAD style it does keep costs down. I have been using it like this for months, and it appears to be OK. It is also better for the circuits as the worst thing you can do to circuits is turn them on and off too frequently. Current surges at switch-on eventually cause electronic failure.

I call to industry to make a (mains operated) rechargeable pack for the expansion port which would keep the PCW 'live' so that it can be turned off at the main switch.
Anthony N K Johnson
Kent



"I STILL RECKON WE'D BE BETTER OFF WITH A 512 K RAM ADD-ON..."

8000 PLUS We tend to leave our PCWs on all week in the office, switching them off only at weekends – as you say it saves loading software and data files back in. Isenstein actually make the battery pack you describe, but with the monitor on as well it can't last all that long. I always thought it was heating and cooling that damaged semiconductors.

Clock this

In the May 8000 Plus review of the SCA Real Time Clock Module you missed out one most important minus. Each time the PCW is switched on, the module feeds the date and time to the PCW. But it only feeds hours and minutes, not seconds. So the time can be up to half a minute out. Not very accurate compared to a PCW which, as you know, gives the time to the nearest second.

To correct the time to the nearest second you have to type in the day, the month, the year, the hour, the minutes and finally the seconds! Or do you?
Bob Walker
Hailsham
East Sussex

8000 PLUS No. Or maybe yes. I don't even have seconds on my watch and I've been sitting here trying to think why I might need them. Tell me, what am I missing?

Driving lesson

Your reply to Sean White (Drive Talking, Tipoffs, issue 34) gave advice on adding a 3.5" drive to a PCW. I have three B drives, a 3", a 3.5" and a 5.25" attached to my PCW as well as a hard disc drive (an ASD Peripherals 20 Mbyte) so I have some experience in this area. A 3.5" drive uses a different connector from a 5.25" drive. My Cumana 3.5" drive is connected to the PCW with cabling from KDS in Hunstanton. This has a switch on it to select between the three different B drives (only one of them can be in use as drive B at any one time). I am sure they could also supply the appropriate cable without the switch.

To read and write MS-DOS discs I use either 2 in1 or MFU from Moonstone Computing. Both will deal happily with either 360K 5.25" and 720K 3.5" size discs.
Digby L James
Mitcham
Surrey

8000 PLUS Sounds good to us but we can't find a number for KDS. Anyone out there know it? We can vouch for Moonstone, their stuff is brilliant.

Starting over

The pleasurable anticipation I had in looking forward to the article on 'programming for absolute beginners' carried me through the first page of waffle but I was brought to an abrupt halt as soon as Mr Childs started to actually speak about programming. He mentions subroutines, dimensioned arrays, goto, gosub etc and I realised I was less even than an 'absolute beginner'. I need a dictionary to learn the language before I can start. Or better still an article on programming for absolute beginners. Will you be able to help?

John Mahoney
Old Colwyn
Clwyd

8000 PLUS We did run a series for beginners about a year ago, (and will again). This series isn't aimed at teaching you Basic but at teaching programming techniques, which is a bit different. The best way to learn how things work is to write a lot of little programs using different functions. Ten five line programs will teach you more than one fifty liner. However, we do try to help (see Learning Curve).

Little perforations

Can you tell me if anyone manufactures perforated/ continuous A5 paper? If not, I wonder why not.

Anthony Allen
London

8000 PLUS No demand for it, guv.

Adding up

I think that 8000 Plus is being rather greedy. I am referring to your classified ads section. You have increased the rate for most advertisers from £7.50 to £1 per word (€30 equivalent). This is a disgrace. Until the increase, this was a nice little way to advertise. At £30 for such a small insert, it's a joke.

I'm glad to see that many potential advertisers are now boycotting 8000 Plus classified ads. In your July issue, you have only 15 adverts. In previous issues you have had forty or fifty advertisers. I suggest you rethink this policy.

Dave Grimsdale
Bristol

8000 PLUS Classified ads are really for private transactions, not business, and believe it or not we provide it as a service to readers; with the cost of setting the ads it isn't profitable (alright, so don't believe it). Personally, I'd rather use the space for editorial, but my publisher won't let me.

Really wrong

We have recently purchased a twin drive PCW 8512 and would like your help on a few problems. How can we copy all the data on the Drive A disc on to the disc in Drive B?

We have some 'ready-made' programs such as Locofont, Locofile etc, and would like to increase our library of programs F-A-S-T. We would like postal contact with PCW owners, who would like to exchange A COPY of their 'ready-made' programs for A COPY of our 'ready-made' programs that they require to build up their library. Any PCW owner interested in exchanging programs for their own personal and private use without any payment of cash, can write to us.

Godfrey M P Chapman
London

8000 PLUS As you will notice we haven't printed your address in full. When you buy programs such as LocoFile you only buy a licence for you to use them, not for anyone else to do so (read it). Swapping copies is definitely illegal. Programmers write them to sell, not for you to give them away. Please feed the programmers – thank you for your consideration.

As for copying files, we published a rather nice tip in issue 29 (page 72, Copy Cat) to copy all files from all groups on one disc to the same groups on another disc using PIP.

Dead certain

I have had my PCW9512 for a year or more and have never had such a shock as I had today. My morning session with Locoscript 2.27 was normal, but when I inserted the disc in the evening it would not load. So I reverted to my Master disc (2.12) and tried to look at the catalogue of the problematic start of day disc: Disc Data Error.

I very coolly copied my Master onto another disc, and it works fine. Any early thought of 'Virus' left my head when I successfully loaded data from my current document disc (which I used the same morning.) Is there any explanation for the sudden death of a disc?

T Gowen
Diss
Norfolk

8000 PLUS As you've discovered, discs are really very reliable, but eventually they will die. The problem is usually mechanical. Dust, grit or simple wear on the disc surface will eventually damage the data encoded there. For this reason all important discs should be backed up.

Buggit

Towards the end of last year, I sent my Mini Office discs back to Database Software for an upgrade, as there were some bugs on the database module (eg it did not perform the calculations it should). The upgraded discs cured these faults but introduced a new one: when printing reports with a multi-line field, the line number is printed at the end of the line.

I also use Mini Office at work (a second master, not pirated). I ordered the new version at the end of March, using an official order and asking for an invoice. Database promptly returned the order asking for payment. On 11 April, I sent a cheque which was cashed on 22 May. Have I received the new version? Have I hell!

Now I like Mini Office. So why do Database spoil it by providing such poor technical support and by advertising (and taking money for) products they don't actually have for sale?

M R Stallion
Leigh-on-Sea
Essex

8000 PLUS The Mini Office II saga makes pretty dire reading. The original Mini Office did at least reach a reasonably usable condition and perhaps they should have left it there. Since Database seem finally to have settled on a version they can sell we shall be carrying a review next issue (we couldn't see the point before).

One for all?

T Brightmore (One versus Two in July's Postscript) was probably correct in suggesting that Protext is a better choice when upgrading. There is also a financial advantage. I have just upgraded with a Protext word processing system, which includes a spellcheck and mail merge facility, for £39.95 from a mail order company. Had I decided on Locomotive software it would have cost considerably more. Not only would I have had to buy LocoSpell and LocoMail, but as my machine is an 8512 I would have had to buy LocoScript 2 as well. It is also likely that I would have bought Locofile rather than use my CP/M based database.

Why do PCW 8000's still come with LocoScript 1? Had they been supplied with LocoScript 2, the other Locomotive software may have been a more attractive buy.

Bill Henderson
Blairgowrie
Perthshire

8000 PLUS The big advantage of Protext for most people is speed of text handling, while LocoScript is unbeatable when it comes to control of the layout of that text (including foreign language text). What you upgrade to depends on what you need to do. For example, if you need the new sheet feeder then you need to use LocoScript.

The decision as to which LocoScript to ship with which machine lies with Amstrad, not Locomotive, and Amstrad are primarily interested in selling PCWs, not software.

Fast work

What, Mix C slower than BASIC ("Fast Forward", July edition)? Well, yes it is, if you simply translate a Basic program into C, without using all the power that C has available. I got it down to 28 seconds just by changing the output line. And there's a function to set an array to a particular value, which is faster than a FOR loop.

I do agree that benchmarks are usually pretty useless, but I wouldn't like anyone to get the idea that Mix C is quite that slow. Any chance of some C sections in 8000 Plus? Alright, I only asked.

David Aldred
Nottingham

8000 PLUS We don't C why not. In fact next month we're spotlighting the C language. As for speed, only pansies program in high level languages. Real men use 8080 code, bypass CP/M and grunt a lot.

Only sleeping

Let's hope that PCWs don't learn to think like John Connell (What Do You Think?, Issue 34). Had Gottlob Frege died in 1972, he would have been 124 years old. Logic is good for you – but not that good. In fact, the famous mathematical logician died in 1925 at the age of 77.

Ian Ground
Newcastle upon Tyne

8000 PLUS Anyone can get the numbers wrong, it's the algorithm that counts.

Read on

I am looking into buying a second disc drive for my 9512, either a 3.5" or 5.25" drive. Being only seventeen I have a limited budget and I do not want to make a mistake. When the non-standard drive is fitted to the machine, does this mean it is an 'IBM' compatible machine or can this never happen?

Also, if the drive is fitted, can the machine read the discs from one of its rival machines (ST, Sinclair and others) or one of the Amstrad PC discs? Finally on the 9512 are you sure that you cannot use the discs for the 8000 machines on the 9512?
Rico May
Tonbridge
Kent

8000 PLUS A lot of questions - however your machine can never be an IBM compatible (and a good thing too) it has a different microprocessor. You can't read ST discs, Amiga discs or Mac discs. With the right software you can read IBM discs, discs from most CP/M computers, Amstrad CPC discs and a few others. Most CP/M programs for the 8000 series will run on the 9512.

Little shaver

I was interested in your article "Fast Forward" (Issue 34) and I welcomed a simple comparison between speeds of different programming languages. However, being a C programmer, I was disappointed to see that the true speed of the language was not portrayed. The time quoted for the program to run included that time taken to display the results. Such action is almost the same in any language when output to the screen is performed by calls to CP/M. When timed on the number crunching aspects alone, the ratio between a Hisoft C and BASIC program's speed increases from 2:1 to 2.5:1.

Furthermore, the variables of the C program have been declared inside the **main()** function. This makes their storage class automatic. Referencing such variables has to be made via an index of the automatic stack. If the variables were declared before **main()**, they would be allocated to static addresses and can be accessed by the code directly. This reduces the time for the program to run by 2 seconds.
Alan J Baker
Bournemouth

8000 PLUS Fascinating how much mail this subject drew considering that even the author thought the pursuit of benchmarks pretty pointless. We agree however that static variables in C make a lot of sense for programmers even if they make purists wince.

No accounting

My programs for the PCW machines, mostly specialising in accounting and related subjects, are written in Mallard Basic, which seems to me to be a logical choice since it is the language issued with the machines.

Features explaining or extolling Mallard Basic are often included in your magazine – quite rightly so in my opinion. However, after reading your excellent publication, in which I have been a consistent advertiser over quite a long period, I have reached the conclusion that, almost without exception, your reviewers will seldom have anything good to say about systems written in Mallard Basic.
A G Clough
Ramsay
Isle of Man

8000 PLUS Mr Clough went on to say that occasionally the software he writes is not taken seriously because it is in Basic. Not so. In fact many of the programs we review are written in Basic and we don't even mention it. The bad press came from attempts to write fast games in slow Basic (mainly on earlier machines). Mallard was written with business uses in mind and works well. The only time anyone would normally notice that Basic is being used is if the programmer has done his or her job badly.

Telephone man

Thank you for mentioning the CP/M User Group (UK), now known as the CP/M & MSDOS Users' Group, in your May issue.

However, as you did not mention how to access our bulletin board, may I add that the telephone number is Windsor (0753) 868196. The protocol is 8-bit, no parity, full duplex. There is automatic selection of baud-rate, and all the usual rates are supported up to 2400 baud. If you live out in the sticks you may find this rate too much for BT's lines, but I use it from Oxford without problems.

Details of the group, and the membership form may be downloaded from the board as an alternative to writing off to Diana Fordred at: 72 Mill Road, Hawley, Dartford, Kent DA2 7RZ
J S Linfoot
Oxford

8000 PLUS We're sure we mentioned those numbers somewhere in the issue (though perhaps not in that order). We've run out of puns on comms, sorry.

Orcslayer

Please could you help me? I am looking for a good fantasy role-playing game for my Amstrad PCW 8256. I have looked in two public domain discs but I have not found anything of particular interest.
C J Maples
Hartfield
Sussex

8000 PLUS We don't know of any. Can anyone help?

Bootless

Why does the 8512 sometimes not notice that it has a B drive when booting up LocoScript? It depends on the moment you insert the B disc in the drive. If you put both discs in their slots, switch on and simultaneously push both home, then all is well.

However, if you start to boot up, fumble around for the B disc and put it in during booting, you may hit the critical moment and fool the machine into thinking you have removed the drive. This seems to be when the screen goes green after the bars have worked their way down. If you do it while the bars are there or after the Loco titles have appeared, it is OK. However, as the disc directory is read later on in the boot process it may be unwise to put the disc in too late. Better to wait until booting is complete and do an I7.

If you get caught with a missing drive, just do a warm start – Shift-Extra-Exit and watch your timing.
Bernard Hypher
Poole

8000 PLUS We've had several letters on this subject, all of which agree that a warm boot cures all. On a different subject, have you noticed how strange a sentence can look moments after writing it?

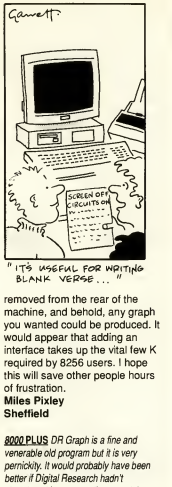
Graphable

I have been a user of an 8256 for years. I use it for my A level work and my father uses it to run a small business - specifically for producing graphs using DR Graph.

We decided that the better type set of a daisy wheel printer would produce neater reports, so we purchased Locoscript 2, printer, interface, and cable. Again we had no problems as far as word processing was concerned.

Then we tried running DR Graph, the same work disc as before, but found that the only graphs it would print out to the dot-matrix had no more than 3 points on them, and no additional text as a memory error message kept appearing just before printout.

Then one day, for some reason, the interface had been



removed from the rear of the machine, and behold, any graph you wanted could be produced. It would appear that adding an interface takes up the vital few K required by 8256 users. I hope this will save other people hours of frustration.
Miles Pixley
Sheffield

8000 PLUS DR Graph is a fine and venerable old program but it is very pernickity. It would probably have been better if Digital Research hadn't abandoned it – as you discovered they no longer support it.

Nice one, Kyril

A quick piece of advertising for linguists wondering if its worth investing in LocoScript 2 (especially if they're Slavists).

Buy it. The script looks attractive, but the advantage lies in the way the Russian alphabet is moulded to our QWERTY keyboard; on a Russian typewriter, it becomes FYVAPROLDZHE. Difficult, when that long-trained finger goes left of the middle row for A and hits something completely different. Apart from a few Russian letters, the whole thing is arranged in QWERTY order, which means you can type a lot faster with LocoScript 2 than a Russian typewriter.

All in all, it's made my life as a Russian literature and translation specialist immensely easier.
Frank Murtagh
Bishop Auckland

8000 PLUS We're always impressed by the thought that goes into Locomotive's word processing software. It comes of having it designed for those who can type rather than for programmers (did we mention wordstar?)

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COMPETITION

At last you can learn to speak foreign, courtesy of Hisoft

We know you've been wondering what to do on those long winter evenings (they're coming, they really are) so here's the answer – learn another language.

Yes, with a new computer language you'll speak lyrically to your PCW, and it's easier than you think. Cracking C is more fun than chatting Czechoslovak; getting Pascal pat puts Punjabi in the shade, and last (but not least), don't even consider Coptic when we're offering Cobol, the language with, incidentally, 90 percent of all business software to its credit.

So what do you need to do to win one of these bright shiny new language packages, courtesy of Hisoft – complete with the famous Hisoft ED80 text editor? Well this month we're going to challenge your literary creativity. We have here a well-known press release featuring Alan Sugar and some comedian. All we want to know is what is being said. Using entirely subjective criteria to decide on the best entries the three winners will each get a wonderful new Hisoft implementation of either C, Pascal or Cobol, allocated at random.

Entries as usual please, on the back of a postcard or sealed envelope to Caption Competition, 4 Queen St, Bath, BA1 1EJ. Final entry date is the 24th of September 1989.

This month – next month

Well, it really has been good news week; we're finally seeing some of the major new software products promised for the PCW. Perhaps the most impressive is Microdesign, reviewed by Tim Smith in this very issue. The PCW can now boast two impressive DTP packages.

The hardware side hasn't been forgotten either with a rare new release from Amstrad themselves, the economically named AS9512 sheet feeder. Unusually for hardware, it comes with its own software. Is this the shape of things to come?

Visiting Locomotive, and indeed other companies, is part of the job, and we didn't shirk it. An almost unbelievably clever group of people, they treated us kindly and fed us with lemonade. A thoroughly pleasant visit.

As you've no doubt noticed we've indulged in a mild celebration of success on the occasion of our third birthday. Thanks for showing up and we look forward to many more.

Almost as if there were some guiding hand at work, this month sees not just a chance to win a new computer language but the first in a review of the programming languages available for the PCW. We shall be looking at various languages, how they started, where you can get them, what they're like to use and much more.

Green business

Mini Office Plus

Yes, we actually have a working copy here at Future Towers. Has it been worth the wait? We'll give you the high points and the low down on the latest from Database.

Green Business

Not only does the PCW boast a green screen (well most of them) but green businesses find them the ideal low-cost route into computing. Andrew Bibby looks at the PCW up at the nutty end of wholesaling.

Hard discs

Will we finally get them all in for review? We certainly hope so. Find out if a few megabytes more can increase the sum of a PCW owners' happiness.

Moving along now

Tim Smith looks at the computer in your pocket. They say you can't take it with you, but several computers are small enough to go in your pocket and cheap enough to not quite empty it first. We grab a handful.

C for yourself

All the puns that are fit to print as we look this month at the designer language C. And we're saving the rest for the article.

And even more

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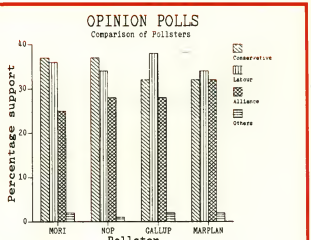
Cracker 2 continues to evolve as a 'live' product under current development by its original author: few if any other full-featured spreadsheets for the PCW can make this claim.



Example plot from a PCW printer

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